

AIR CONDITIONING & REFRIGERATION

The Newspaper of the Industry

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NEWS

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Inside Dope

By GEORGE
F. TAUBENECK



Learn to live and laugh —
thus delay your epitaph

Stories of the Week
Personal Air Conditioning
Kudos
Unhappy Engineers
Refrigerated Missiles and
Air Conditioned Space
Travel
Out of Our Mailbag

Stories of the Week

Benny met a leprechaun. The latter promised Benny that, so long as he didn't shave, he'd have good luck.

Happened that way, too. Benny's horses ran into the money, his luck with the cards was phenomenal, business got better and better. But his wife kept nagging him.

"Honey," he remonstrated time and time again, "the leprechaun warned me that if I shaved he'd turn me into a Grecian urn."

"Nonsense. You dreamed all that rot."

Benny shaved. (Married, you know.) Sure enough, he transmogrified into a Grecian urn.

Moral of this story: A Benny shaved is a Benny urned.

"I don't care what they say," groaned a headachy elephant to his mate, "I can't remember a thing about last night."

A Canadian inventor by the name of Harry Moon has come up with a revolutionary new cake of soap for bathrooms. It is 10 ft. long and 7 ft. wide.

"You just sit on it," he explains, "and slide up and down."

Personal Air Conditioning Kudos

Ralph Gonzales of Chrysler Airtemp has received a Certificate of Appreciation from the Federal Housing Administration. Said certificate cites Mr. Gonzales for his public service as advisor to FHA during 1957.

The certificate reads, in part: "You helped in the development of housing programs to improve living conditions in the United States. Your public service was a real civic contribution. It means much to our nation to be able to call on recognized leaders in the country for their counsel and advice."

Mr. Gonzales is particularly well known for his work on air conditioning field-design problems and load calculations. He has been a member of cooperative engineering groups which developed recognized load calculating forms for residences—including ARI Standard 6-10 and National Warm Air Manual 11.

(Continued on Page 24, Col. 1)

Down-to-Earth Suggestions For Air Conditioning Profits

EXCEPTIONALLY HOT WEATHER over most of the country early each year obviously would solve all the air conditioning industry's problems of over-supply, disappointing demand, jammed warehouses, and future progress.

Although we can manufacture indoor climate to meet every need and desire, we can't control God's weather.

Therefore, it seems obvious that agile SELLING must be done if "packaged" air conditioning ever is to get off its haunches.

Is national advertising—via television, "shelter" magazines, etc.—the answer? Obviously not, judging by previous unfruitful results.

(Concluded on Page 44)

No More 'Winking' at Closed Shops

Correct Illegal Hiring by June 1, NLRB Warns Employers, Unions

WASHINGTON, D. C.—Correct your illegal hiring practices by June 1 or face application of the "Brown-Olds" remedy, Jerome Fenton, general counsel for the National Labor Relations Board, has advised building trades unions and contractors.

Thus Fenton revealed that the NLRB has dropped its policy of "winking" at closed shop requirements in labor contracts that force employers to hire only union members.

Such requirements have actually been illegal since passage of the Taft-Hartley Act in 1947.

Of particular interest to the air conditioning industry because it was first applied a year ago in a case involving a heating and plumbing firm in El Paso, Texas, the Brown-Olds remedy requires, in addition to the usual remedies, reimbursement of all monies, including initiation fees, dues, permit fees, assessments, "dobies," and the like, that were collected after the illegal contract provisions were put in force.

Such refunds, it was indicated, would be the joint responsibility of union and employer.

(Concluded on Page 87, Col. 1)

RACCA Coast Group To Push 'Freedom Of Movement' Plan

LAS VEGAS, Nev.—Board of directors of Refrigeration & Air Conditioning Contractors Association (national) completed a two-day session here which:

Started plans for area meetings on the Pacific Coast to work out cooperative arrangements on work jurisdictions and freedom of movement where it is practicable.

Discussed a western conference for 11 western states in 1959.

Stated RACCA attitudes, including that toward labor.

Restated objection to HR 7168 in present form.

(Concluded on Back Page, Col. 4)

Cincinnati Home Cooling Sales Rise 10% In '57

By C. Dale Mericle

CINCINNATI—Sales of residential air conditioning increased nearly 10% in 1957 over the previous year, it is revealed in a survey of contractors and distributors serving the Cincinnati area made by AIR CONDITIONING & REFRIGERATION NEWS.

There were 1,137 homes air conditioned during 1957, compared with 1,042 in 1956. Previous surveys by the News turned up 835 residential installations in 1955 and 567 in 1954.

Just as in 1956, some contractors and distributors chalked up gains during 1957, others held about even, and some dropped in sales.

An air of confidence prevails about 1958 prospects, moreover, some firms expecting a considerable increase in sales.

A detailed breakdown of the 1957 data is shown in an accompanying table listing the sales of 20 contractors and 21 distributors.

(Ranking of distributors, in-
(Concluded on Page 60, Col. 1)

Insists Wholesale Function Necessary In Air Conditioning

SAN ANTONIO, Texas—"No matter how the wholesale function is handled, it cannot be eliminated in the air conditioning business," declared Robert B. Gilbert, assistant national sales manager, Home Products Div., Rheem Mfg. Co., in speaking before the Wholesalers' District Association here recently.

Pointing out that "every air conditioning manufacturer is trying to get the business of the combination cooling and

(Concluded on Back Page, Col. 1)

1958 Air Conditioning 'Show Case' — With Specifications

This, the "Air Conditioning 'Show Case' Issue—With Specifications" can possibly best be read with the idea that it contains four principal kinds of information—all of which can be of vast assistance to anyone who has any kind of interest in the air conditioning industry.

1. **Specifications on the 1958 lines of air conditioning equipment marketed by 121 firms.** This specifications service, originated by the NEWS, is designed to tell specifically "who makes what" in room units, packaged commercial air conditioners and residential systems including heat pumps, with key information on every line.

2. **The various advertisements, designed to demonstrate what manufacturers of air conditioning equipment and accessories are offering for the 1958 market.**

3. **Merchandising ideas to give sales a shot in the arm:** part-time salesmen help commercial firm develop residential market (8); direct mail when carefully used yields 5.8% return (16); paving way for cooling when installing heating helps make future sale easier (18); are you doing these things to be in the air conditioning business, asks Carl Beltz on page 20? Pushing air conditioning as Christmas present pays off for this dealer, who also dramatizes heat pump (29); vacuum cleaner for condensers demonstrates firm's ability to service equipment (39); working with builder gives dealer chance to get cooling into original contract (40); commercial customers prove to be best residential prospects (51); trucks, clocks, matches, pencils, and decals all remind prospects regularly that this dealer is ready to serve (57); utility campaign each year keeps public air conditioning conscious (68); making prospect choose your product is matter of good installation, hiring pleasant salesmen, and giving good service (73).

4. **Air-cooled units in residential field—why their growth has been so phenomenal is discussed by Woodrow Radle (82); recouping ad and sales promotion costs—wholesaler's program allows dealer to do it if he purchases in sufficient volume (12). Additional articles of particular interest are:** Air conditioning multi room buildings (34); warm air research residence will study air movement in split-level house (43); air distribution requirements in year-round systems (49); better management—job description aids in selecting employees, directing activities (50); how homeowners use summer cooling—survey gives insight into what user wants (52); residential air conditioning sales in Cincinnati show 10% rise for 1957 (60); servicing auto air conditioners (66); air washing attic gets more efficient cooling from smaller system (70); air or water-cooled residential units—some pitfalls to avoid in making choice (72); what's new—3 pages of interesting new items starting on page 74; you asked about it answers questions on refrigerants (77); refrigeration problems continues discussion of leak testing (79); used driers is the current topic in Frank Versagi's Technical Center (80).

Contractors, Agents and Senate Committee Wholesalers Meet on 'Who Buys from Whom' OK's \$2 Billion Housing Bill

LOS ANGELES—A "first" meeting of its kind ever to be held in this area between representatives of air conditioning and refrigeration contractors, independent refrigeration and air conditioning supplies wholesalers, and manufacturers' agents, took place here recently.

A questionnaire submitted by representatives of Refrigeration & Air Conditioning Contractors Association of Southern California, Inc., at the meeting requested a statement of policy of the various manufacturers in connection with sales to general contractors, industrial users, "national accounts," and consumers.

This brought forth a general discussion as to the relative functions of the contractor, the engineer, the wholesaler and distributor, and the manufac-

(Concluded on Page 4, Col. 1)

WASHINGTON, D. C.—The Senate banking committee has tentatively approved and was expected to send to the Senate floor a Democrat-sponsored housing bill that would sink nearly \$2 billion of Federal money into the housing market.

The bill, trimmed down from nearly \$3 billion by Republican committee members, is the first of the Democrat's "anti-recession" measures they hope to put through Congress.

Of the money, \$1.5 billion would be earmarked for mortgage buying by the Federal National Mortgage Association and \$400 million for military housing and direct government lending for veterans' housing in rural areas.

A modest reduction in re-
(Concluded on Page 4, Col. 2)

Milwaukee Cooling**Calls Proposed Demand Charge Unconstitutional**

MILWAUKEE — One local citizen is highly incensed at a proposed demand charge on water-cooled air conditioners which don't have water conserving devices. He maintains the charge "is unconstitutional and a financial blow" to businessmen.

Businesses will be penalized, says Burton E. Goodman of Goodman-Bensman Funeral Home who claims he speaks for the Milwaukee County Funeral Directors Association. Those firms which do not waste water by excessive use of air conditioners will have simply "another tax burden on the already pressed businessman," he added.

On Feb. 17, the Wisconsin Public Service Commission ap-

proved making a charge of \$10 a ton of cooling capacity on air conditioning units over 3 tons which don't have conservers. Common council last May refused to levy such a charge.

Kroger Still Plans To Build 100 Stores In '58

NEW YORK CITY—Plans of the Kroger Co., food store chain, to build 100 new markets this year will not be shunted aside because of any general business slowdown, states Joseph B. Hall, president.

Kroger's own business, in fact, is better this year than last. Its sales were up 13% for the first four-week period this year and showed a gain of 11% for the second four-week period over comparable weeks in 1957.

In addition to the 100 new stores it is planning in 1958, the chain also contemplates 30 major store remodeling jobs.

BHC Film Promotion To Boost Hydronic Heating, Cooling

NEW YORK CITY—A new promotional project to boost sales of hydronic heating and cooling systems is the Better Heating-Cooling Council's "You Earth People" motion picture.

To be shown to meetings, the sound-color film will also be beamed over television. This cartoon-style picture features a heating equipment "salesman" from outer space who swooshes onto earth by "flying saucer."

Hydronic sales points are interwoven into the plot of this one of six special promotions.

Observing its second anniversary as voice of the hydronics industry, BHC is composed of more than 40 manufacturing companies, wholesaler associations, and contractor groups.

26 Packaged Units To Air Condition 5 Floors of Fifth Ave. Women's Store

NEW YORK CITY—Arnold Constable & Co. at 40th St. and Fifth Ave. here, is now in the process of having five of its six floors air conditioned with a total of 26 Carrier packaged units.

The installation is being made by Forman Air Conditioning Co., Inc., 523 W. 37th St., a firm which has been in the air conditioning business for 25 years.

Arnold Constable & Co. is one of the biggest and best known Fifth Ave. women's stores. The total cooling capacity which is currently being installed is 360 tons.

100-TON SYSTEM ON FIRST FLOOR

The first floor of the existing building is already equipped

with a 100-ton system. The present installation being installed on the second through the sixth floor, inclusive, is scheduled to be operative by May 1.

Installation of all units, including piping, electrical, and sheet metal work, is being done during the course of regular store hours while business is going on. The only restriction upon this procedure is that all deliveries of equipment and materials must be made between 6 and 9 a.m.

The second, third, fourth, and fifth floors have similar installations, with identical packaged Carrier units. Each of these floors has three 15-ton Carrier 50K16's and two 50K12's.

The sixth floor, however, has two 7½-ton 50K8's, one 10-ton 50K12, and three 15-ton 50K16's. It is this floor that contains the executive offices, the fur shop, the cafeteria, and the beauty shop. One of the units is exclusively for furs. The office of the president is provided with individual damping.

EACH FLOOR TO HAVE 5 CONTROLLED ZONES

The five floors which are identical, each has five separate zones which are thermostatically controlled. The control system was designed by Forman engineers and the components are Minneapolis-Honeywell products.

On the roof of the building there will be a 360-ton Phillips cooling tower, working in conjunction with the system. All piping risers run vertically in the stair well, thus keeping all risers out of the sales areas. The packaged units themselves are also out of the sales area, and are located in dressing rooms, storerooms, and similar non-exposed areas.

According to S. Morgenstern, Forman engineer in charge of the project, the ductwork will be constructed so that all seams will be flush. This specification, along the design of the entire installation, was made by consulting engineer, Arthur O. Lynas of New York City.

Supervising the installation for Forman is Sam Denenmark. The sales engineer for the job was Alfred Gamrin. The chief engineer for the Forman firm is Ralph Torop.

In '57**DeSoto Shows 50% Gain In Auto Conditioning**

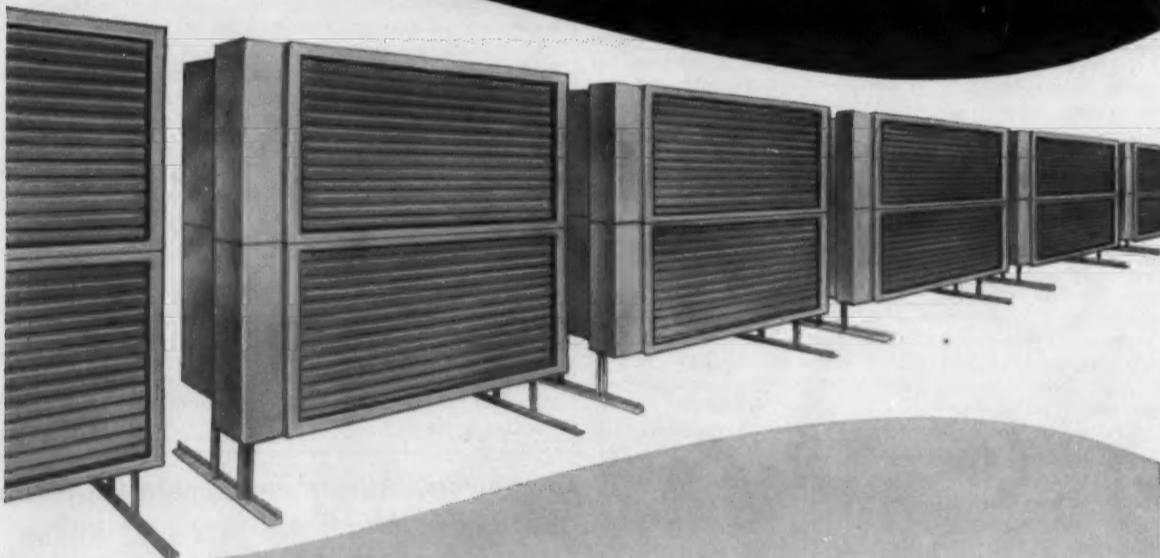
DETROIT — On a percentage basis, DeSoto Div., Chrysler Corp. noted the biggest advance in factory-installed air conditioning units among optional-equipment items selected by car buyers in 1957.

Highest priced accessory, air conditioning, which sells for more than \$400, showed the greatest percentage rise during the year.

Five DeSotos of every 100 built in the model year were ordered with air conditioning units, the company reports. This was an increase of 50%. Another 25% gain was recorded in January this year.

KRAMER**UNICON**

for

UNLIMITED TONNAGE

Kramer Unicon has brought a new era into the industry. With more than 20 years of unique practical experience and know-how in dry condensing, Kramer again offers new avenues of opportunity to the air conditioning and refrigeration industry.

Unicon now has no capacity limit. Standard Unicon systems up to 540 tons are now cataloged for the first time.

Unicons for heat pump applications are now also available with no horsepower limitations.

Kramer engineering and design has proven that the Unicon can move large volumes of air with extreme quietness.

Unicon has long proven by actual experience that it is free from fouling or corrosion and requires practically no maintenance.

The total operating weight per ton for Unicon is very low, resulting in minimum platform and reinforcement requirements.

Unicon space requirements are surprisingly small; a 300 ton system requires only 15' x 14' floor space and is 12' high.

WRITE FOR BULLETIN U-391

KRAMER TRENTON CO. • Trenton 5, N.J.

44 YEARS OF CONTINUOUS ACHIEVEMENT IN HEAT TRANSFER

in 1918...

... it was inevitable. As temperatures went up, people fumed, fussed and grew less efficient. Air conditioning, of course, was new. But, not until 1925, when the Balaban and Katz theaters in Chicago made summers profitable by cooling their patrons, did the industry begin gathering momentum. A few department stores followed suit in 1926 and an entire San Antonio office building a year later.

In 1918, however, when Copeland was founded, everyone *endured* the heat.



today...Copeland keeps temperatures and tempers on an even keel...

Customers get happy . . . and stay happy . . . when Copeland goes to work. And for good reason.

Copeland has grown up with the air conditioning industry . . . and contributed heavily to its tremendous expansion by providing motor-compressors and condensing units engineered specifically for high temperature applications.

The result has been gratifying to Copeland users right down

the line. They have found Copeland products unequalled for dependable, long-lasting performance and refrigeration per operating dollar.

Whether your application calls for motor-compressors or condensing units for air conditioning — or equipment for commercial, low or extra-low cooling installations — you'll find it's easier to sell your product and keep it sold if it's powered by Copeland. Write today for complete information. Learn of the important features you can merchandise to *your* customers.



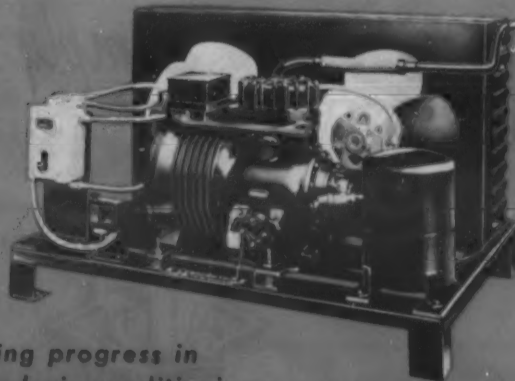
COPELAMETIC MOTOR-COMPRESSORS — accessible hermetics. Suction-cooled through 10 H.P. (10 H.P. illustrated) Also air-cooled and water-cooled models available for high, commercial and low temperature applications.

COPELAWELD

welded hermetics. For package air conditioners and commercial applications. R-12 models ½ H.P. through 1 H.P. R-22 models ½ H.P. through 2 H.P.

COPELAMETIC CONDENSING UNITS

accessible hermetics. Air-cooled, water-cooled and combination units. ¼ H.P. through 10 H.P. (5 H.P. unit with suction-cooled motor-compressor illustrated)



SINCE 1918

Copeland
REFRIGERATION CORPORATION, Sidney, Ohio

40 years of pioneering progress in
refrigeration and air conditioning

Contractors, Agents.. Housing Push--

(Concluded from Page 1, Col. 4)

turer and manufacturer's agent.

Some of the agents pointed out that some of the contractors act as engineers, distributors and contractors; or as engineers, manufacturers, and contractors.

It was stated that all parties to the meeting showed a marked interest in the development of some plan which would bring some sort of order to the functioning of the various components in the air conditioning and refrigeration industry.

Fire Razes Farquhar Co.

WILMINGTON, Ohio—A recent fire destroyed the plant of the Farquhar Co. here, manufacturer of air conditioning equipment and furnaces. There was no immediate estimate of the amount of the loss.

(Concluded from Page 1, Col. 5)

quired down payments for mortgages insured by the Federal Housing Administration was also approved.

An attempt by Republicans to raise the interest rate on GI loans was defeated.

An Administration housing bill will be considered at a later date.

In the House of Representatives, Albert Rains, Alabama Democrat and member of the House banking subcommittee, urged a "crash program" to spur construction of 1.4 million new homes this year and reconditioning of 600,000 existing homes as another anti-recession move.

He also wants a sharp reduction in FHA down payment requirements and extension of the GI home loan program beyond its expiration date next July.

Air Conditioners Figure In Bribery Charge In New York

NEW YORK CITY—The "desirability" of air conditioning may be indicated by that fact that it continues to show up in alleged bribery of public officials. (Remember when the bribes were food freezers?)

When Bernard P. Malone, supervising inspector for New York City's department of buildings, was indicted for perjury and criminal contempt by a grand jury probing corruption in the department, air conditioners figured in a bribery charge.

Two air conditioners were reportedly installed in his summer home at Neptune, N. J. and one in the home of a neighbor, and the jury found that they were allegedly ordered and paid for by Harry Shapolsky, a real estate operator.

12 Contractors Who Are

'Independent' UA Members Say Bay Area Local Dues-Payers Are In 'State of Siege'

SAN FRANCISCO—In answer to charges preferred against them, 12 "independent" members of United Association local 38 in San Francisco flatly refused to appear before the executive board.

All 12 also belong to Bay Area Refrigeration Contractors, Inc., which has 34 members including those belonging to locals in other parts of the bay area.

Told To Appear

Joseph P. Mazzola, local 38's business manager, had personally notified each of the 12 to appear Feb. 26 "regarding charges preferred against you under section 212 of the U. A. constitution and Article 13 of

local 38 constitutional amendment."

The Bay Area group organized over two years ago, and retained an attorney.

Those in the jurisdiction area of local 38, for some time have been pressured to sign a contract calling for fringe benefits including 2½ cents an hour for local 38's joint conference board.

Declined To Participate

Advised by their attorney the 2½ cents was contrary to plain provisions of the National Labor-Management Act, and not being offered any plan for representation on the board, Bay Area members have consistently declined to participate.

Writing to U. A. President Peter T. Schoemann on April 17, 1957, union members belonging to Bay Area detailed their efforts to get complete journeyman organization, and protested "continual harassment of members in good standing in the local while a far greater number with no union affiliation have been allowed to go unmolested."

The letter also stated "while large numbers of either non-union workers or workers from other locals are permitted to work in the field, dues-paying members of our local are practically in a state of siege."

Plumbers Picket

On Dec. 23, 1957, the "state of siege" took the form of pickets, unemployed journeymen plumbers promised priority when job assignments came in.

At first Carney Refrigeration was one of those picketed. But long-time union member Tom Carney had become disgusted at union inaction, stopped paying dues three years back.

Then a California supreme court opinion validated a statute prohibiting picketing of non-union members to force union membership. Pickets no longer appeared in front of Carney's.

Mazzola had pickets then only for Bay Area members belonging to his local 38 and spread the pickets around, had them picket one independent contractor for a day, some one else the next day.

Plumbers had shown an interest in details of the "beef," listened to presentations of Bay Area members they were picketing.

Jobless Plumbers Stop Picketing

Suddenly picketing stopped. Officers of Bay Area were advised by their erstwhile pickets, the jobless plumbers, they had suggested to Mazzola that for future picketing he get refrigeration journeymen.

Meanwhile on Jan. 13, 1958, the U. S. Supreme Court made a ruling validating the ninth circuit court of appeals opinion prohibiting payments such as the 2½ cents an hour for the union joint conference board.

But the "state of siege" had not ended for the independents paying dues to local 38.

Mazzola cited them to appear. Answering for all 12, long-

(Concluded on next page)

SPECIFY • INSTALL

ALCO

T-SERIES

*THERMO EXPANSION VALVES

REFRIGERANT
FREON-12
FROM ½ TON TO 50 TONS
REFRIGERANT

FREON-22
FROM 1 TON TO 80 TONS

CARRENE-7
FROM ¾ TON TO 60 TONS

PROPANE
FROM 1 TON TO 88 TONS

Super charges for any application.
Available with external or internal superheat adjustment and external or internal equalizer.
Widest variety of body styles and connections.

Simply... loosen screws
lift out cage...
you never break connections

2 body designs meet every requirement...

STRAIGHT-THROUGH CONNECTIONS or RIGHT ANGLE CONNECTIONS



Call your Alco wholesaler.
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- BUY SECURITY
- BUY QUALITY
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7802

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The one complete line of refrigerant controls: Thermostatic Expansion Valves • Refrigerant Distributors
Solenoid Valves • Suction Line Regulators • Flooded Evaporator Controls and Reversing Valves

Bay Area Local In 'State of Siege' --

(Concluded from preceding page) time union member John Pierson, who is president of Bay Area, wrote Mazzola Feb. 17 stating:

'Will Sign If Joint Industry Board Is Out'

"We have been and still are willing to sign with local 38 if the Joint Industry Board is excluded.

"No Bay Area Refrigeration Contractor members will be present Feb. 26. It would waste our time and yours to discuss further a subject upon which you have taken an arbitrary stand.

Terms Union Chiefs In Violation of Local's Constitution

"You and your entire executive board are in violation of Article 7, section 4, page 12 of the local 38 constitution, also Section 211 of the U. A. constitution because you have brought pressure to bear upon us as individuals and as a group to force us to sign an illegal working agreement, and used this as a negotiating condition with Refrigeration & Air Conditioning Contractors Association of Northern California.

"That some such arrangements was made is apparent from your own statements to the press," Pierson's letter continued, "as witness an article in Jan. 27 issue of *Organized Labor* titled:

"Refrigeration Pact Settled by Plumbers."

"Business Manager Joseph Mazzola of Plumbers local 38 announced to the meeting of San Francisco Building Trades Council Jan. 16 the settlement that day of negotiations with the Refrigeration Industry, but the union had to put some of its own members on the 'We don't patronize' list in order to do so."

"Also in this article: 'This year the negotiations bogged down over a demand that the one-man shops also be required to make payments to the Joint Industry Board Fund.'

"A fund that has been illegal since its inception," Pierson's letter stated.

"On Jan. 15 in the San Francisco Examiner there appeared an article in which you stated: 'They are working nights, Sundays, and holidays, and are undermining union conditions that we have worked years to obtain.'

"We, too, have worked years to uphold working conditions within the industry, with little or no cooperation from the local.

'We, Too, Have Worked Years To Uphold Working Conditions'

"We have paid union dues for years when we had neither voice nor vote. Why? Because of loyalty to a union we are now ashamed we belong to.

"We worked many man hours to work out a City Code in San Francisco that would have helped the industry by proper examination and licensing.

"(There has not been an examining board to determine the ability of refrigeration applicants for membership in local 38 in years.)

"The San Francisco refrigera-

tion and air conditioning code has been a law for almost two years. The last information we had as to why it was not enforced was 'There has been a formal protest from Local 38.'

'Formed Association of Small Shops To Bring Unity and Fair Play'

"We formed an association of small shops to bring unity and fair play among the small operators, to build better business ethics within our industry as a whole. Bay Area Contractor members have kept their service rates comparable to others.

"Yet you label us a detriment to union working conditions. You have picketed us, and placed us on unfair lists, because we refuse to sign an illegal contract.

"There is some questions in our minds if any local in the U. A. can legally negotiate a working agreement for a skill they do not recognize, that so far as they are concerned does not exist, although Refrigeration skills are recognized by both Federal and State Civil Service examining boards.

"Since you have taken the attitude we are undermining union conditions we wish to inform you that hereafter we will set our own hourly rate and

working conditions as will best serve our business, and we can assure you these will be very competitive.

'We Will Set Our Own Hourly Rate, Working Conditions'

"We will use our prerogative as a free people in a free country to conduct our business as we see fit, without answering to a dictatorship of any kind."

(Signed) Bay Area Refrigeration Contractors, Inc., John Pierson, president.

Copies were sent to Schoemann, and to RACCA of Northern California.

When he mentioned the question about a contract on a skill

the U. A. does not recognize, Pierson was referring to a resolution adopted by the 1956 U. A. convention in Kansas City which provided:

Designate Skill Of Journeyman

"That on all membership books a space be provided for designating the special skill of the journeyman, limited to the following classifications:

- "(1) plumber.
- "(2) steam fitter or pipe fitter.
- "(3) sprinkler fitter.
- "(4) lead burner.

"And that no type of special skill be entered other than those above listed."

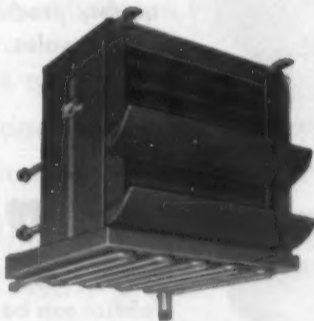
the

NEW McQuay

ZEROFROST

AUTOMATIC HOT GAS DEFOST SYSTEM

the ideal system—
and the price is right



McQUAY UNIT COOLER
A new low temperature unit cooler with low pressure drop, built-in heat exchanger and drain pan de-icer. Available in eight sizes, 3000 to 32,000 Btu/hr.



McQUAY REVP
Automatically controlled heat reservoir REVP re-evaporates condensed liquid for quick and positive coil de-icing. Solenoid valve, actuated by timer, diverts hot gas from compressor discharge through REVP.



UNIT COOLER



REVP



SOLENOID VALVE



TIMER

= McQuay ZEROFROST SYSTEM



McQuay INC.



AIR CONDITIONING
HEATING
REFRIGERATION

Amana®

THE MOST AIR

New Designs — Priced to Guarantee Leadership in Every Market!

No other line offers so many outstanding models and such a wide range of full-profit prices. No matter what your market demands, you have the answer in product and price!



THE *Amana Year 'Round*

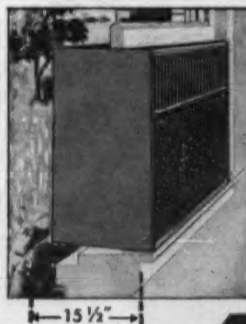
Your customers will marvel at the way it actually thinks for itself! Supplies either cold or hot air automatically to maintain the temperature previously selected. Revolutionary reverse cycle heat pump provides heat without costly-to-operate electric heating coils. Packed with the most exciting, sales-making features ever offered. Available in 1, 1½ and 2 h.p. models.

THE *Amana Air Command*

Completely automatic operation. Adjusts itself to maintain the temperature selected. 2-speed Fan provides high speed for maximum cooling and low speed for night cooling with whisper quiet operation. Air Deflector Grille rotates a full 360° to provide even flow of cool draft-free air in any direction. Available in ¾, 1, 1½ and 2 h.p. models.



THE *Amana Slim-LO*



The most beautiful air conditioner you've ever seen! Just 15½ inches deep so there's no overhang inside or outside window...no interference with drapes or curtains. Another Amana quality product that adds an extra dimension to your sales. Available in ¾ and 1 h.p. models.



THE *Amana DECORATOR*

Today's most fashionable air conditioner! Panel fabrics can be changed in minutes to match any room's decor. A style leader that leads to extra sales. Available in ¾, 1, 1½ and 2 h.p. models.

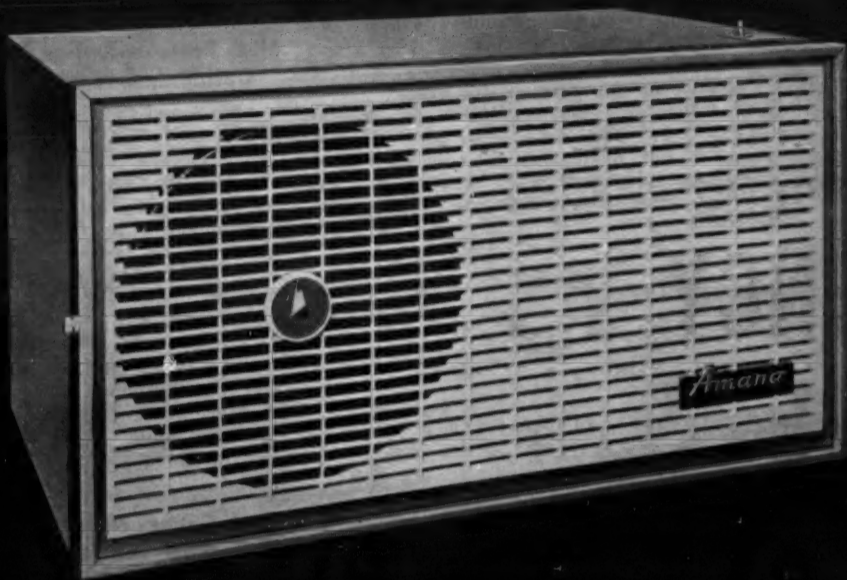
HARMONIZES WITH ANY ROOM.
Blends with drapes, slip-covers or other furnishings.



Amana®

Backed by a Century-Old Tradition of Fine Craftsmanship

COMPLETE, MOST PROFITABLE CONDITIONER LINE FOR 1958



THE *Amana Compact* Never Before So Much Cooling Capacity In So Compact A Unit!

A great new Amana quality-built air conditioner comparable in size to the so called portables but with 2 to 3 times the cooling power. The Amana COMPACT gives "big unit" performance though its cabinet is just 13 $\frac{1}{4}$ inches high, 25 inches wide, 16 $\frac{3}{4}$ inches deep. And this 1 h.p., 7.5 amp unit needs no special wiring*—just plugs into any convenient outlet. You'll dominate the market price-wise against any competition and still get top mark-up with the Amana COMPACT!

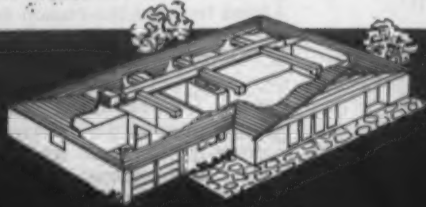
*Where local codes permit.

Amana® OFFERS A COMPLETE MERCHANDISING PROGRAM TO BOOST YOUR SALES WITH THE **3** BIGGEST EXTRAS IN AIR CONDITIONING TODAY!

- 1** Completely new installation system... the simplest known... takes half the normal time, cuts cost to a minimum. You can profit on every installation.
- 2** The Amana is the quietest of all air conditioners. Dramatic side-by-side tests with any other air conditioner will prove it to your customer. Yet Amana units actually move a much greater volume of air with their completely new type fan assembly.
- 3** Although all Amana air conditioners are quality-built to outperform all others, they are most competitively priced. Yet you enjoy a full profit on every model. This year's Amana Air Conditioner line makes you the competition!



Want a fabulous free trip to gay Paree?
Ask your Distributor for complete details.



Amana's NEW LOW COST CENTRAL AIR CONDITIONING

A tremendous profit opportunity for you! Ask your Distributor about Amana's complete merchandising approach for the big unit sales—big unit profits.

AMANA REFRIGERATION, INC.

AMANA 14, IOWA

Adopts Brand Name**Cobell Moves to New Plant In Expansion**

CLEBURNE, Texas — Cobell Industries, Inc. announces completion of moving both executive offices and production facilities to its new plant in Cleburne.

The recently-completed, 40,000-sq. ft. plant is fully equipped to meet expanded production requirements, the company said.

The move comes as part of the new Cobell management's over-all program to broaden the firm's markets through more aggressive production, marketing, merchandising, and sales of its line of central air and water-cooled air conditioning systems.

Cobell will market all units under the single brand name "Rangaire" to "achieve better brand impact and recognition."

Awarded ASHAE Grant for Graduate Cooling Work

A \$600 award for graduate study next year has been announced for Wayne E. Springer, 26, right foreground. He was selected for the American Society of Heating & Air Conditioning Engineers' Homer-Addams award to encourage graduate work in heating, ventilating, and air conditioning.

Part-Time Salesmen Develop Residential Market for Commercial, Industrial Firm**Taking Time for Survey of Home's Need Pays Off**

EAST ROCKAWAY, L. I., N. Y. — Spend sufficient time with each prospect — without high pressure — and orders for residential air conditioning equipment will come in very nicely, asserts Leonard Morris, president of Five Towns Refrigeration Co., Inc. here.

Morris, whose activity is mainly in the commercial and industrial cooling field, found this out from personal experience two years ago. He has been building on that base ever since.

Here is his story:

"About two years ago, we felt — as perhaps did a number of other contractors — that the

residential central station market would have great potential. As a trial experiment, we took on a line of central station equipment utilizing two and three-ton units with 'Fiberglas' duct kit.

"I personally made this a hobby and picked out cold prospects. They consisted of the type homes which I thought were adaptable to this equipment.

"I rang door bells and sold 27 units on this basis.

"My conclusion at the time was that this type of equipment could be sold with an excellent profit mark-up if it were presented to the consumer in a

proper manner. That is, take sufficient time to make an intelligent survey of his requirements and work with the consumer as to layout, etc.

"In making installations of this equipment, a great deal of care had to be exercised in the method of installation. We had to prevent any damage to the house and avoid every possibility of unsightly appearance. Outside, the noise factor had to be brought to a minimum.

High Pressure Selling Definitely Out

"We found that high pressure selling was definitely not in order. Orders came very nicely if sufficient time was given to each prospect. Most sales were consummated in the evenings and over the weekend when the male member of the household was at home. Then both husband and wife could be approached at the same time.

"Last year, we felt that to sell this equipment and cover a greater area, part-time salesmen who could sell on weekends and in the evenings, should be added.

High Caliber Men Hired For Part-Time Selling

"These salesmen would not require a drawing account, but would work on a straight commission basis. Local 'Help Wanted' advertising produced a good number of high caliber salesmen who were anxious to supplement their income.

"They were teachers, telephone company employees, policemen, firemen, and men who held pension-type jobs. They were intelligent, eager, and of good appearance.

"These men showed a great deal of enthusiasm. A campaign was set up whereby each man was given a particular territory. He would then proceed to set up a mailing list for the houses in his territory which he considered most suitable for this type of installation.

"During this period of time, I had the men come in for discussion and assistance one evening a week. They could then familiarize themselves with the equipment and other pertinent details.

"Many leads resulted from these mailings. A small percentage of sales were developed.

Men To Get More Training

"However, we felt the percentage of sales could have been a great deal higher. We tried to trace the reason for the poor results.

"We finally decided that our training program was inadequate for these men. They required a good deal more 'school room' work and considerably more field experience in selling.

"We are going to continue this campaign this year with these facts in mind. We are going to give the men more training and help.

"In our opinion, this method of creating sales has a lot of potential in the residential field if properly followed and handled," Morris concluded.

MAXIMUM EFFICIENCY in MINIMUM SPACE...

The BOHN CH Ceiling Unit Available in 2, 3, 4, 5 and 7½ tons capacities



The Bohn Ceiling Unit is a horizontal type blower evaporator, ceiling mounted for air-conditioning stores, shops, offices, restaurants and similar installations. Its attractive cabinet permits mounting directly in the conditioned space or the unit can be remotely mounted and connected to a duct system. Space for steam or hot water coil permits simple conversion to year-round air-conditioning and heating unit. Sectional side panels for easy inspection and maintenance. Filters removable from either side. Full rated 400 CFM per ton. Available in duct or grille models. Buy the known line—the Bohn line.

- easy and economical to install and service
- silent, trouble-free operation
- insulated to eliminate sweating and absorb sound
- attractive, compact, heavy gauge bonderized steel cabinet with durable hammertone enamel finish
- built-in drain pan



Rear view of Bohn CH Ceiling Unit

BETZ DIVISION
BOHN
DANVILLE, ILLINOIS

Manufacturers of Commercial
Refrigeration, Industrial Air
Conditioning and Special Heat
Transfer Surfaces

BOHN ALUMINUM & BRASS CORPORATION • BETZ DIVISION • DANVILLE, ILLINOIS

In Town of 15,000

**Sees Personal Contact
As Chief Way To Sell
Air Conditioning**

ASHLAND, Ohio—"In a town this size (15,000 residents), everybody knows everybody else," asserts Roe E. Wolfe, heating and air conditioning contractor who operates out of his home on the south side, "so the best means of getting business is personal contact."

As proof, Wolfe points out that he sold air conditioning to the three other members of the foursome he golfs with every Sunday.

Among businessmen, competition is the strongest factor in promoting cooling sales, he adds. "When one retailer buys it, his competitors are almost forced to air condition, too, in order to attract trade."

By keeping in personal touch with these men through service clubs and the like, Wolfe learns early who is currently interested in adding cooling and follows up immediately.

On the residential side, the Janitrol-Carrier dealer says, air conditioning is now where gas heating was 10 or 12 years ago. "It's just beginning to get competitively priced," he asserts. "The big break may even come this year!"

Advertisements and publicity in national "shelter" magazines such as *House and Home* and *Better Homes and Gardens* are doing much to build consumer acceptance of air conditioning in the home, he believes.

To Paris

**Amana Will Air Lift
Prize-Winning Dealers**

AMANA, Iowa—Amana Refrigeration, Inc., in cooperation with its distributors, is planning a mass air lift of over 1,000 dealers to Paris, France, in the early fall, according to Walter A. Wendler, vice president in charge of sales at Amana.

Wendler said the program "has been custom-tailored for each of our distributors. Amana field sales representatives have worked out details with individual distributors to best fit the requirements of their territories. It is not a dealer loading program, but is based on what a dealer sells."

The air lift will take place in late September and October. Most dealers are expected to spend the week in Paris, although special trips from the Paris headquarters are available, if desired. While a number of special events are planned, winners will not be required to participate in the group events, but will be free to plan their own schedule in Paris, if desired.

It was also announced that Amana distributor salesmen are competing for an all-expense trip to Paris for two persons, and 25 cash prizes in a "Giant Step" program.

Merlin E. Morris, Amana's director of advertising, said each distributor salesman makes a tape recording of a product presentation on Amana freezers, freezer-plus-refrigerators, air conditioners, and "Deep-freeze" freezers.

**'Renting Room Air Conditioners
Develops Profitable Sales'**

BATTLE CREEK, Mich. — One way to develop profitable sales of room air conditioners is to rent them, says Gordon Collison, commercial refrigeration and air conditioning dealer here. Collison said he has rented window units for the past several

mer will buy one the next."

Collison said that he charges \$1 per day for a ½-hp. unit and \$1.50 a day for a ¾ or 1-hp. unit. Two months is the minimum rental period. Generally units stay out for three months or so.

Selling Slants

al years and can attribute a goodly number of profitable sales to the plan.

"When you have a rental unit in a man's house, you are giving him a taste of air conditioning and are selling him on your brand," Collison notes. "In addition, it keeps your competitors away."

"We find that generally the people who rent a unit one sum-

mer collects the \$60 or \$90 at the time of installation and the remainder when the unit is removed. No additional charge is made for installation.

The same units can be rented out year after year, he notes, for the rental customer is not particular about having the latest model. Sometimes, however, when the renter is a hot prospect for a unit, Collison will install a current model in the hope that the customer will purchase it.

**Leaves Return Card, Offers \$10 for
Air Conditioning Lead that Produces**

FINDLAY, Ohio—Leaving a number of return postal cards with each purchaser of an air conditioning unit and offering him \$10 for each lead that develops into a sale has produced good results for Ralph E. Hanline, owner of Aire-Flo Heating Co. here.

With these leads and others developed from home shows, fairs, and other sources, Hanline immediately sends a salesman out to follow up. A salesman in the home has the best chance of closing the deal, he believes.

Because air conditioning is still a luxury in this area, the salesman doesn't have to argue the prospect into buying air conditioning, the Lennox dealer contends.

"He wants it because his

neighbor has it," he explained, "or perversely, because his neighbors do not have it yet."

AIRE-FLO HEATING CO.
"Certified Lennox Dealer"

CIRCLE ITEM INTERESTED IN

LENNOX EQUIPMENT:

Burners - Blowers - Conversion
Burners - Humidifiers - Air
Conditioners.

RCA WHIRLPOOL APPLIANCES:

Washers - Dryers - Ranges
Freezers - Refrigerators
Dehumidifiers
Room Air Conditioners.

MOORE'S and PERFECTION:

Gas and Oil Space Heaters.

VIKING: Window Fans.

WATER HEATERS: —

INCINERATORS:

Remarks:

Phone

Name

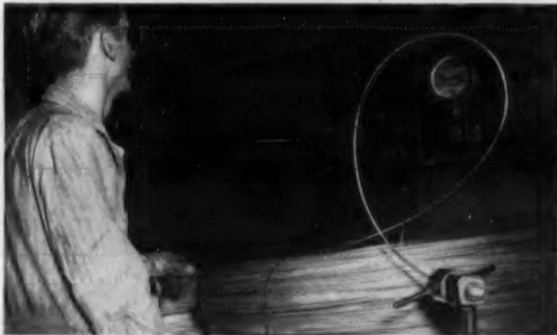
Address



STEEL TUBING TIPS:

**HOW TO DETERMINE
YOUR BEST TUBING VALUE!**

Compare the tubing you now buy with these extra-value features available to you at no extra cost!



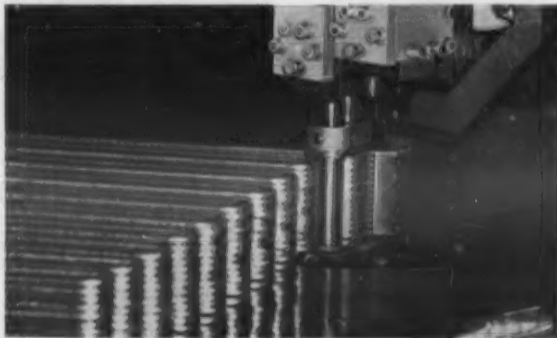
**Is every inch of your present tubing
pressure-tested and cleaned?**

Every inch of GM Steel Tubing is pressure-tested and cleaned. Solvent is introduced under pressure to all bulk coils, checking structural strength and assuring an I.D. free of internal residue and cleaned to many times specifications.



**Is your tubing rotary-straightened
before serpentine are formed?**

All straight lengths of GM Steel Tubing are rotary-straightened to maximum lengths of 80 feet. This process assures serpentine with better "flatness" characteristics for contact at all points on weld-wire condensers.



**Are your serpentine formed on
multiple benders for economy?**

Multiple benders, designed and developed by Rochester, precision-bend up to 20 serpentine at one time. Also, end treatments such as deburring, flaring, die sizing, heading, flattening and crimping are done on automatic equipment.



**Is every serpentine double-checked—
pressure-tested and cleaned?**

After each serpentine is formed, it is individually pressure-tested and cleaned to assure further quality and dependability. These are just a few of the many extra-quality controls available with GM Steel Tubing that cost you no more.

**IF YOU CAN'T ANSWER 'YES' TO ALL
THESE QUESTIONS, IT WILL PAY
YOU TO CONTACT YOUR GM
STEEL TUBING SALES ENGINEER
OR TUBING SALES MANAGER,
ROCHESTER PRODUCTS, DIVISION OF
GENERAL MOTORS, ROCHESTER, N.Y.**





On October 14, we said... "No one can say that the air conditioning industry doesn't know how to manufacture good products. What this business needs is a new way to manufacture sales." And here it is!

Bruce D. Henderson

Bruce D. Henderson, Vice President

COMFORT COMMAND.

Comfort Command is an important new name. An important new sales philosophy that grew from a need for a way to sell.

Westinghouse is *selling* COMFORT... instead of letting people buy equipment.

Comfort Command is the theme for a tremendous promotion soon to be unleashed by Westinghouse. It is a vital punch that will erase much of the public's misunderstanding about central air conditioning. It will be the punch that will jolt this industry out of any complacency.

Comfort Command is the key for a whole series of sales action programs that manufacture sales quickly and profitably for the distributor. Programs that are charged with excitement and vitality. Programs that are often tailored individually to the critical sales needs of a local area.

You'll see and hear much more about Comfort Command. You'll feel its effect in your own market. You'll see the master Westinghouse strategy building business that will ultimately affect the entire industry.

J-80560

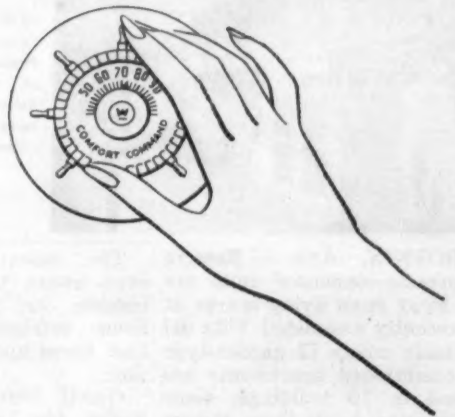


*

This is the symbol of the aggressive, successful distributor . . . the Westinghouse Comfort Command Specialist. He is recognized as the man people want to do business with . . . and Westinghouse wants to do business with!

*Trade-mark

THE SWITCH IS ON . . . AND IN AIR CONDITIONING, THE SWITCH



... a new way to sell central air conditioning

THE COMFORT COMMAND LINE FOR 1958

Under this name, Westinghouse presents a most impressive line of air conditioning and heating components. Each one is engineered and built to exacting Westinghouse standards. Each has the flexibility and versatility that make Comfort Command installations simple and profitable.



AU-1 LEADER SERIES
Air-cooled condensing
units up to 32,000 Btu



AU-2 CUSTOM SERIES
Air-cooled condensing
units up to 74,500 Btu



COMPLETE LINE OF COOLING COILS
Plenum, horizontal and blower ... up to 7½ tons



SU UNITAIRES
Capacities up to 8 tons



MU UNITAIRES
Capacities up to 15 tons



RHP
New remote heat pump



WU SERIES
Water-cooled condensing
units up to 60,500 Btu



**COMPLETE LINE OF GAS-
AND OIL-FIRED FURNACES**
Basement, utility, counterflow
and horizontal



**FOR LARGE COMMERCIAL AND INDUSTRIAL APPLICATIONS
WESTINGHOUSE OFFERS A COMPLETE, PROVEN LINE OF APPLIED EQUIPMENT**

LU UNITAIRES
For commercial and industrial
applications from 20 to 50 tons

TYPE PKA
Water chillers from 20 to 120 tons

Complete line of Compressors, Condensers
and Condensing Units from 20 to 120 Tons Featuring
Westinghouse's Exclusive CLS Hermetic Compressor

IS TO WESTINGHOUSE

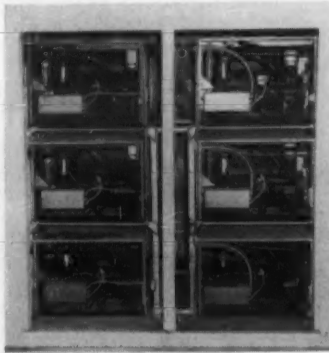
YOU CAN BE SURE...IF IT'S Westinghouse

AIR CONDITIONING DIVISION WESTINGHOUSE ELECTRIC CORPORATION, STAUNTON, VIRGINIA

72 Garden-Type Apartments Air Conditioned Year-Round by Compressor-Condenser Units Remote from Living Spaces



NEW LUXURY Villa del Coronado apartment in Phoenix, Ariz. shows two of the compressor-condenser rooms where remote units for individual apartments are stacked.



LOUVER doors of this remote equipment room have been removed to show the individual units in Villa del Coronado stacked in metal frames. This compressor-condenser room is on the third floor of a six-unit apartment building in the group.

PHOENIX, Ariz. — Remote compressor-condenser units are well away from living spaces at the recently completed Villa del Coronado where 72 garden-type air conditioned apartments are housed in 10 buildings, some two stories, some three stories high.

The casual visitor is not even aware that small rooms outside, or under stairways, house refrigeration equipment that keeps apartments comfortable.

Goettl Brothers of Phoenix, dealer for Lennox Industries, Inc., designed and engineered

the complete air conditioning job to provide year-round cooling and heating for Villa del Coronado.

Each apartment contains a Lennox gas-fired GH5-95 furnace with an LS-1-300 upflow coil on top which is connected with a Lennox HSA-1-303 3-hp. air-cooled unit stacked in one of the remote rooms outside.

R. M. "Russ" Crotwell, manager of the air conditioning division of Lennox Industries Pacific division, said a garden apartment group in Tucson will also be air conditioned with similar equipment made by Lennox.

Embassy Names Nelson

BROOKLYN — Irwin B. Nelson has been appointed vice president-national sales of Embassy Steel Products, Inc., manufacturer of heating and cooling equipment.

Dealer Can Recoup from

Wholesaler Full Cost of Ad, Sales Promotion Push By Equipment Purchases

DETROIT — A program designed to give the air conditioning dealer a complete advertising and sales promotion program—the cost of which can be completely recovered by the dealer if he purchases enough equipment, is now being offered by York-Detroit Wholesalers, distributor of air conditioning and refrigeration equipment here.

What York-Detroit is offering is a complete advertising and sales promotion package, including advertising in a Detroit metropolitan newspaper, window display signs and promotion literature, shell jewelry kits as premiums for the privilege of making a residential air conditioning survey, "portable sales kits" for use in making a sales pitch to residential or commercial prospects, and the tuition for one student at a special sales application school.

For this the dealer makes a flat payment of \$500. However, he can get a rebate of half of this amount, or all of it, depending on how much merchandise he purchases from the wholesaler.

Specifically, the newspaper advertisements comprise six 225-line advertisements on residential air conditioning, and six 225-line advertisements on commercial air conditioning, each advertisement carrying the name and address of four dealers.

The window displays include banner signs of various sizes, and the window signs can be in the form of large circular thermometers, York-Detroit explained.

Sales kits present orderly, graphic presentations of "reasons why" the prospect should buy air conditioning, and also point up the features of York equipment.

The sales application school is a one-night-a-week for five weeks' affair and covers such subjects as ductwork design, equipment selection, installation hints, proposal writing, and salesmanship, the wholesaler pointed out.

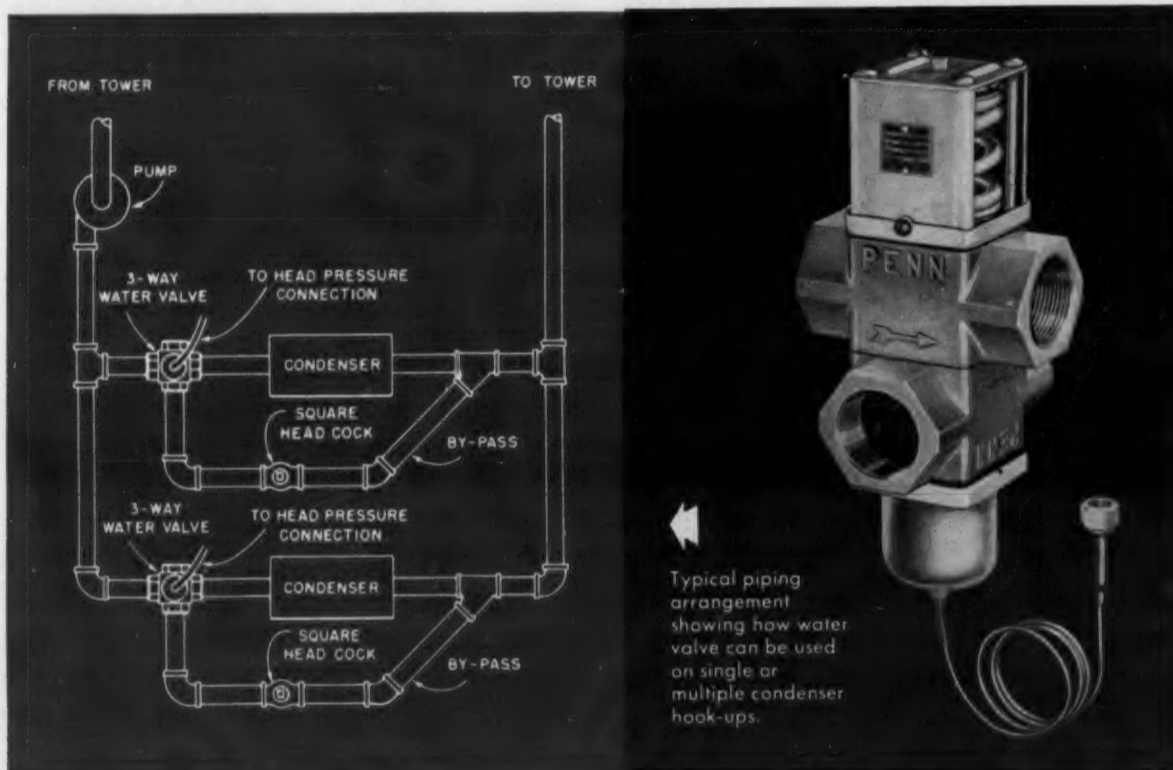
Heat Pumps Air Condition Sales Office Year-Round

VAN NUYS, Calif.—Westinghouse year-round heat pumps provide air conditioning for the new ranch-type building at 15217 Burbank Blvd. which houses a new Westinghouse Electric Corp. apparatus sales office serving northwest Los Angeles county, and all of Ventura, Santa Barbara, and Kern counties. Arthur G. Kane, Jr., is manager.

Water Coolers Outlined

BALTIMORE — Baltimore Aircoil Co. has published a four-page bulletin on its new line of industrial water coolers.

These units are used for cooling water for diesel or gas engines, air compressors, plastic molds, and other closed system applications where process water temperatures are deemed critical.



New Penn 3-way water valves for cooling tower service MAINTAIN UNIFORM HEAD PRESSURES to give maximum cooling efficiency!

DESIGNED TO ASSURE MOST ECONOMICAL AND EFFICIENT USE OF COOLING TOWER REGARDLESS OF SURROUNDING AIR TEMPERATURE AND HUMIDITY

Now... you can get full capacity and efficient operation from water-cooled commercial refrigeration and air conditioning equipment with Penn's new 3-way water valves. These pressure-actuated valves will maintain correct and uniform refrigerant head pressures regardless of the water temperature from the cooling tower.

This new water valve senses the head pressure, then its 3-way action automatically allows cooling water to flow to the condenser, to by-pass the condenser, or flow to both condenser and by-pass line

as required for maximum cooling efficiency. Even when the condenser does not require cooling, water flows through the by-pass line to the tower. Thus, an adequate head of water is provided at the tower so it can operate efficiently with a minimum of maintenance on nozzles and wetting surfaces.

These Series 3246 water valves are available in 1/2", 3/4", 1" and 1 1/4" sizes. Similar in design to the famous Penn 246 valve... all internal parts are of aluminum bronze to resist acid water attack... and, of course, range spring and sliding parts are not immersed in water.

Try the Series 3246 on your next cooling tower job... it will solve the problem efficiently and economically. Ask your wholesaler for the full story.

PENN CONTROLS, INC. Goshen, Indiana

EXPORT DIVISION: 27 E. 38th ST., NEW YORK, N.Y.

AUTOMATIC CONTROLS FOR HEATING, REFRIGERATION, AIR CONDITIONING, APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES



HAD THE "RED CARPET" TREATMENT LATELY?

Time was when a customer's order was his passport to royal attention—a signal for the "red carpet" to be rolled out. But times change. And if you've been wondering what ever happened to the old "red carpet" treatment for customers, we'd like to talk to you.

At Bendix-Westinghouse, your order still makes you the most important individual in our business. Whether large or small, your order is welcome and

important—because it gives us a chance to prove to you how good our product is and how anxious we are to please in every way we can.

The finest possible "red carpet" treatment is, of course, to give the customer the best compressor he can buy. And, as 162 new air conditioning and refrigeration customers have discovered for themselves in the past year, Bendix-Westinghouse compressors have the highest possible quality and

dependability.

Why not do as so many other manufacturers have done! Send us a large enough initial order to prove to yourself that everything we say about Bendix-Westinghouse dependability is true. Call John Morrill, General Manager, or Don Wood, General Sales Manager, and say that you want to get a trial order going. Telephone: HARRISON 4-6471, Evansville, Indiana.

Bendix-Westinghouse

EVANSVILLE, IND.

A Division of Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio—Export Sales: Bendix International, 205 E. 42nd St., New York 17, N. Y.

Says Small Heat Pump's Flexibility, Adaptability Ups So. Calif. Sales

BURBANK, Calif.—The flexibility and adaptability, and adequate capacities of the small heat pump units, are expanding the market for such units rapidly in this part of the country, reports Howard C. Halbert, vice president, Airco, Inc. here, distributor for Mitchell Mfg. Co.

In the first two months of 1958 we have already sold approximately 500 tons of this type of equipment, which equals our entire 1957 tonnage," Halbert states. "The greatest per-



centage of these sales have been to new commercial and industrial accounts.

One of the largest installations which Airco made of this type of equipment last year was that of 60 Mitchell model QR 200 R reverse cycle units, each

ONE of the largest heat pump air conditioning installations Airco, Inc. of Burbank, Calif. has made was that of putting in 60 Mitchell "QR 200R" reverse cycle units, each rated at 18,000 B.t.u. capacity, to cool an entire San Fernando building.

rated at 18,000 B.t.u. capacity, to cool the entire building occupied by Federal Telecommunication Laboratories, a division of I.T.&T., in San Fernando, Calif.

These units were installed on the roof, providing 48 zones of automatic cooling, heating, and ventilating. Temperature control is by thermostats in the zones. A thermostat can control as many as six units, and the units are staged and have time delays so that all six will not go on the line simultaneously.

All units have fresh air intakes with adjustable dampers. Ductwork was held to a minimum as the supply and returns cut through a ceiling type outlet almost directly below each unit.

The entire installation was completed within seven days.

McQuay Appoints 3 In Sales Division

MINNEAPOLIS — Three new appointments in the sales division of McQuay, Inc. has been announced by G. G. Workinger, general sales manager.

Willard B. Buck was named manager of field



W. B. Buck



A. R. Flynn

sales; Alvin R. Flynn, sales manager of heating and air conditioning units; and



W. P. Peterson

William P. Peterson, advertising manager.

Buck joined McQuay as a sales engineer and has served in various sales capacities. He is a graduate engineer of the University of Minnesota and an active member of the American Society of Heating & Air-Conditioning Engineers and the National Sales Executives.

Flynn joined McQuay as a sales engineer in 1950. He is a graduate engineer from the University of Minnesota and has served McQuay in various sales engineering posts.

Peterson was associated with Brown & Bigelow for the last 12 years in the sales and sales promotion of advertising. Under the direction of Workinger, he will coordinate the development of an intensified advertising and sales promotion program, geared for McQuay's expanding markets, it was stated.

Water Purifier Firm Moves

NEW YORK CITY — Boston Water Purifier Co., for more than 40 years located in downtown Manhattan, the last 26 years at 40 Murray St., has moved into larger and more modern quarters in the Port of N. Y. Authority building, Ninth Ave. and 15th St. West.

The company claims it is one of the oldest and largest suppliers of electric water coolers and filter-purifiers in the country.

FOR HIGH
RESERVE CAPACITY
ASK FOR THE DRIER
FILLED WITH
PA 400

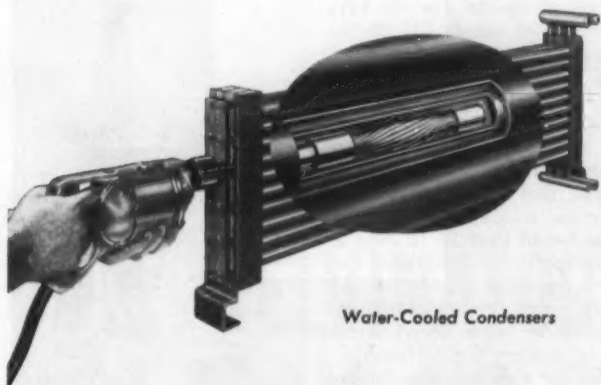


SAFETY FACTOR. Davison PA 400® Silica Gel is the "thirstiest" desiccant around. PA 400 holds up to 40% of its weight in moisture . . . keeps refrigeration systems running even when there's enough moisture in the system to completely saturate other desiccants. So ask for the drier filled with thirsty PA 400. Both you and your customers will be happy you did. See your distributor tomorrow.

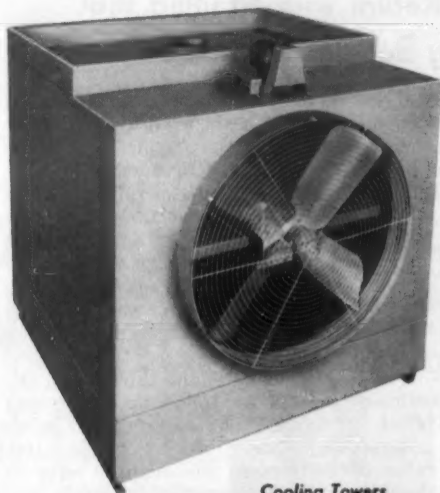
DAVISON

CHEMICAL COMPANY
Division of W. R. Grace & Co.
Baltimore 3, Maryland

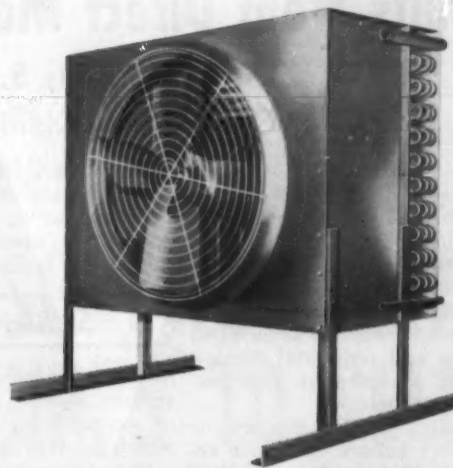




Water-Cooled Condensers



Cooling Towers



Air-Cooled Condensers



Cooling Towers

So Halstead & Mitchell engineers said . . .

**"Here's a line of 'high side' products
that cost less to buy, less to operate
...less to maintain"**

HM CLEANABLE, COUNTERFLOW WATER-COOLED CONDENSERS

H&M Water-Cooled Condensers perform efficiently even in hottest weather or in crowded equipment rooms. Double-tube design and counterflow of refrigerant and water assure maximum heat transfer. Removable headers permit easy water tube cleaning with a simple accessory tool and an ordinary electric drill. Scale and sludge are removed without harmful chemical cleaners. Available in $\frac{1}{4}$ through 25 tons, all H&M condensers are U/L approved for Refrigerants 12 or 22.

HM COOLING TOWERS WITH THE EXCLUSIVE 20-YEAR GUARANTEE

Ideally suited for all refrigeration, air conditioning and industrial process water cooling applications. Induced air flow and efficient water distribution cool the circulating water thoroughly, even on very humid days. Pressure creosoting of the wood fill makes possible the industry's only 20-Year Guarantee on the wetted deck surface against failure due to rotting or attack by fungus. The tower casings are specially coated with plastic *after assembly* for complete protection against corrosion. Propeller Fan models are available in 2 through 125 tons; Take-Aparts, in 5 through 100 tons; Blower Fan models, in 5 through 25 tons.

HM AIR-COOLED CONDENSERS WITH TURBU-FLO, WIDE-SPACED FINS

Larger coils and exclusive Turbu-Flo fins provide dependable performance for air-cooled systems. The embossed, streamline fins create

better air wash, thus reducing air film resistance and increasing heat transfer by up to 15%. Wide fin spacing keeps coils from clogging with dirt or other air borne particles. Sturdy, lock tight construction won't vibrate or rattle. Design embodies slow speed, deep pitch fans and draw-through draft for quiet, efficient operation. H&M Air-Cooled Condensers are available for Refrigerants 12 or 22, in 3 through 50 tons. Multiple circuiting to suit the individual job is provided.

Ask for all Halstead & Mitchell products at your nearby distributor's or write for descriptive literature. Halstead & Mitchell, Bessemer Building, Pittsburgh 22, Pa.



WATER-COOLED CONDENSERS • COOLING TOWERS
AIR-COOLED CONDENSERS • FINNED-SURFACE COILS

Results from Direct Mail

Distributor Gets 5.8% Return with Mailing that Offers Air Conditioning Booklet to 8,000 Firms

NEW YORK CITY—There's probably no market in the world more flooded with direct mail promotion than metropolitan New York, but that didn't keep Carleton-Stuart Corp., Carrier distributor, from sending out direct mail pieces to some 8,000 business and industrial firms—realizing a somewhat phenomenal 5.8% response.

Officials of the distributorship don't believe that such results would have been realized if a "routine" direct mail approach had been used. They attribute the success of the plan to good planning, good production and handling, and to a somewhat "different" approach in the pieces themselves.

The essence of the plan was an adaptation of a direct mail approach which Carrier Corp. had used, whereby a simple sales letter is used to "sell" (at

Selling Slant

no charge) some literature of special interest to the business or commercial establishment which receives the letter.

This letter tells the recipient that Carrier has published a new booklet of special interest to him, promotes the value of the information the booklet contains, and offers to place a copy in his hands, if he returns a postage-paid return card.

Mailings were made on a weekly basis over a three-week period so that replies would not be too great in number to prevent proper follow-up by dealer salesmen. About 1,000 letters to industrial prospects were mailed each week, and 2,000 letters to general business prospects were mailed in each of the first two weeks, with 1,000 more in the final week.

Then after the third week, the second or follow-up letter was mailed on about the same schedule. The follow-up letter re-phrased the original offer to send literature of interest.

Nearly 500 requests for the booklets were received, about 35% from industrial prospects,

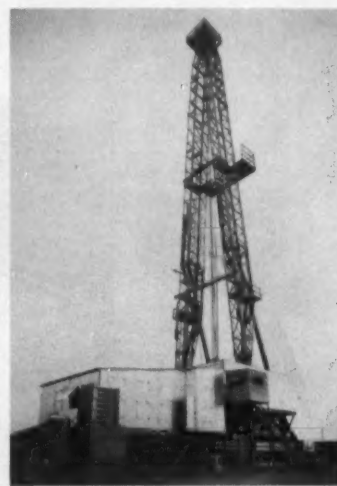
and the balance from general business prospects, for the very fine return of nearly 6% on the mailing.

The booklets were mailed with a note from the distributor's sales manager, and a short time thereafter a distributor salesman called to check if the material had been received, and to further qualify the prospect. It was found that 25 to 30% of the prospects thus qualified had some immediate interest in purchasing air conditioning, and these leads were then turned over to dealers for follow-up.

Cost for this mailing, including the purchase of a mailing list of 8,000 names, came to less than 30 cents a name.

Philco Sigus McNeill

PHILADELPHIA — Philco Corp. announced that it had signed with American Broadcasting Co. for Don McNeill's "Breakfast Club" heard five days a week over ABC.



AIR CONDITIONED oil well drilling rig assembled by S & R Tool & Supply Co. for North Africa.

Oil Well Drilling Rig For North Africa Gets Air Conditioning

HOUSTON, Texas — What is believed to be the world's first "air conditioned oil well drilling rig for land use" is one assembled by S & R Tool and Supply Co.

The big rig, exported to North Africa where it will run in the desert at heats ranging up to 130°, was built for Cam-drill International, Inc.

In the big rig built for Cam-drill, for use by Mobile Oil Co. of Canada, Ltd., approximately 20,000 cu. ft. of space—10,000 in the engine room and 10,000 on the drilling floor—will be cooled by six evaporative-type units employing water from a well to be drilled in the desert. They will displace 33,000 c.f.m. at 80°.

John E. Craig To Manage National-U. S. Packaged Cooling Sales

JOHNSTOWN, Pa.—John E. Craig has been appointed manager, packaged air conditioning sales, for National-U. S. Radiator Corp., Fred S. Hudson, general sales manager, Heating & Air Conditioning Div., recently announced.

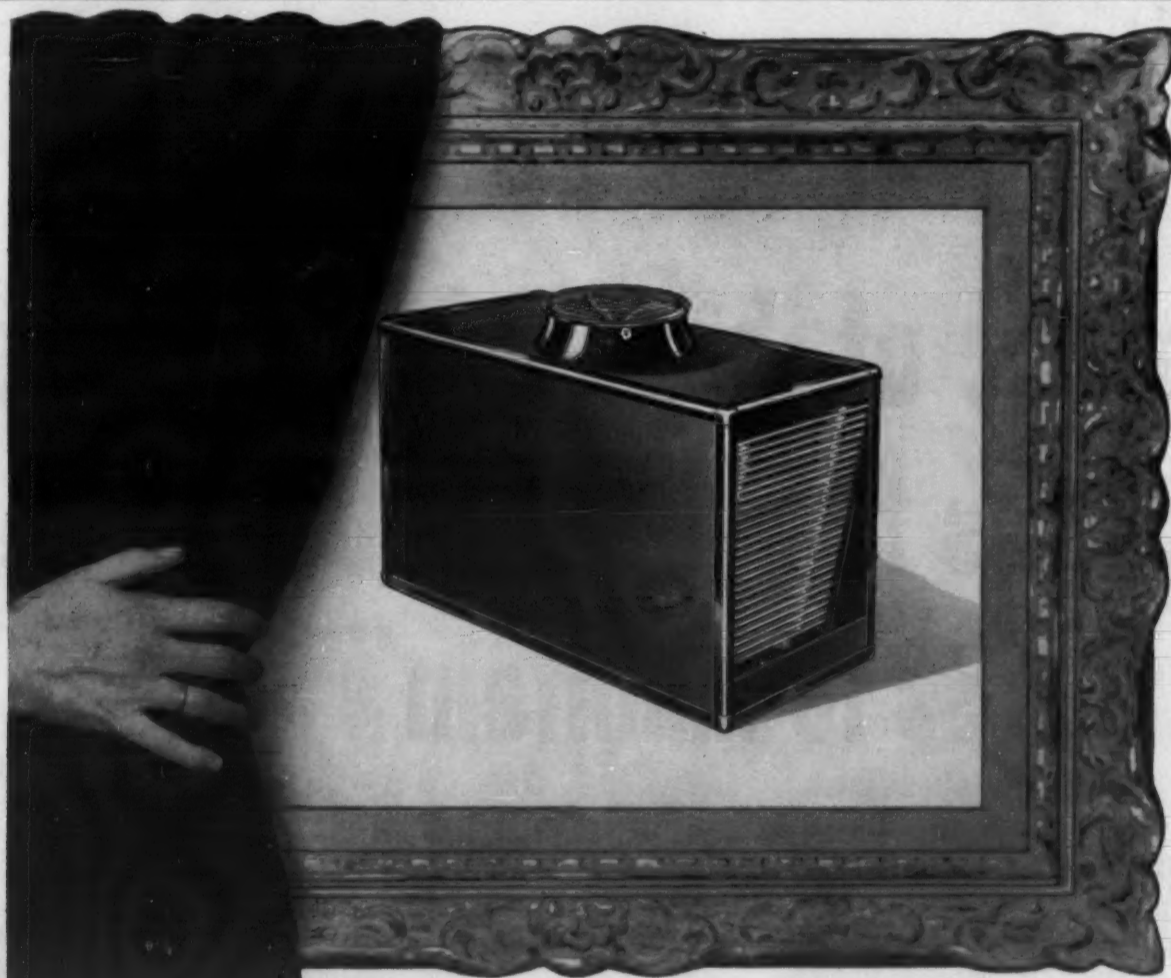
A graduate of the University of Dayton, Craig has devoted most of his working life to air conditioning marketing and sales.

His career was interrupted for four years while he served in the U. S. Navy during World War II as lieutenant commander in both the Atlantic and Pacific Theaters.

P-H-C Bureau Names Stein

CHICAGO — Appointment of Morris Stein, president of Torrington Supply Co., Inc., Waterbury, Conn., as chairman of the Finance Committee of the Plumbing-Heating-Cooling Information Bureau was announced.

Stein is president of the Plumbing and Heating Wholesalers of New England and is serving on several national committees of the American Institute of Supply Associations.



Marley proudly presents the **PERMATOWER**

Engineered in the light of modern technology, PERMATOWERS are a new approach to cooling tower durability under any service conditions. To combat corrosive influences of all types, their design extends the use of reinforced polyester, phenolic and Kralastic type resins and protected laminates to many heretofore vulnerable points.

In a full range of 11 capacity models, PERMATOWERS will soon be presented to the market by Marley sales engineers and distributors.

The Marley Company

Kansas City, Missouri

Mark of Styling Craftsmanship



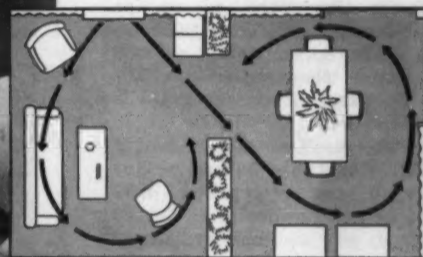
Mark of Engineering Leadership

ONLY KELVINATOR GIVES YOU THESE TWO GREAT NEW ROOM AIR CONDITIONER FEATURES TO SELL!

1. Two-Directional Cooling! 2. Filtermatic Signal!

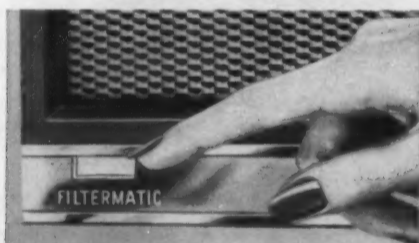


IT'S SO EASY TO DEMONSTRATE Two-Directional Cooling. Cool air can be directed left or right, up or down . . . or left and right and up and down all at once. Simply flick the control knobs that operate the two sets of vertical and two sets of horizontal louvers and your prospects can feel the difference. And when they do, you'll feel the difference in sales!



NEW 1958 1 H.P. KELVINATOR COOLS 2 ROOMS! New Kelvinator Two-Directional Cooling gives you the biggest customer-convincer in the room air conditioner business. And only Kelvinator has it! Yes, only Kelvinator

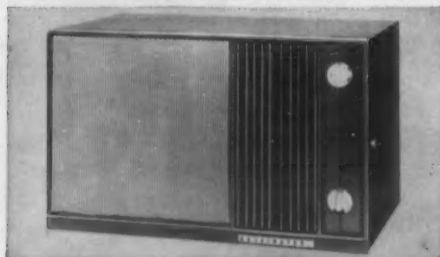
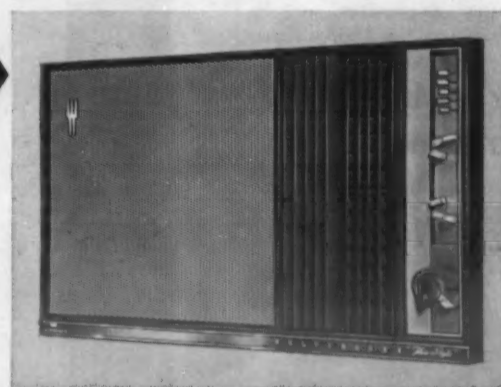
lets you put the cold air where you need it when you need it. Kelvinator gives you the capacity and air flow control to channel cool, clean, refreshing air into two rooms at the same time.



NEW FILTERMATIC SIGNAL SHOWS RED when filter becomes dirty and needs replacing. As long as Kelvinator's exclusive Filtermatic Signal stays white, the filter is clean and the user is getting full cooling capacity. A sales-making demonstration!

6 ALL NEW 1958 "THIN-STYLE" MODELS—So compact—so narrow they fit into 27-inch openings . . . in the window, or through the wall. All have that sheer beauty and subtle elegance you get only with Kelvinator's new "Style Mark" design. Lovely Polar Grey and harmonious Twilight Grey are dominant colors. Entire finish is of highest quality for lasting loveliness.

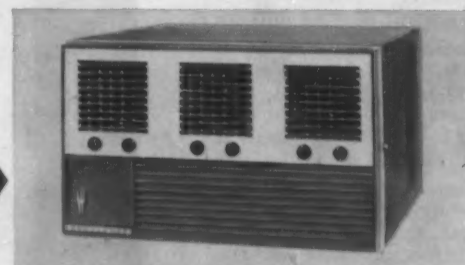
Model	Current	Compressor
RH-1041	12 amp., 115 volt	1 H.P.
RH-1061	7½ amp., 115 volt	1 H.P.
RH-1081	12 amp., 115 volt	1 H.P.
RH-1082	230 volt	1 H.P.
RH-1581	12 amp., 115 volt	1½ H.P.
RH-2082	230 volt	2 H.P.



BUDGET LEADER BUILDS TRAFFIC with Kelvinator's new 1 H.P. "Challenger" model at a down-to-earth price. A big capacity, 12 amp., 115-volt unit housed in the compact "Thin-Style" cabinet. Quality features include: Adjustable thermostat, simple dial controls, adjustable air directional louvers, replaceable filter.

"MASTERPIECE" UNIT to the right has 2 H.P., big capacity for cooling large areas, small shops.

CASEMENT WINDOW UNIT also available—1 H.P., only 7½ amps., installs on any adequate 115-volt circuit.



Kelvinator

DIVISION OF AMERICAN MOTORS CORP., DETROIT 32, MICHIGAN

OLDEST MAKER OF ELECTRIC REFRIGERATORS FOR THE HOME

American Motors Means  More for Americans

Live Better Electrically 

REFRIGERATORS • WASHERS • DRYERS • ELECTRIC RANGES • FREEZERS • ROOM AIR CONDITIONERS

Pave the Way for Cooling (Selling Slant)

If You Don't Sell Cooling When Heating Is Installed, Make the Right Moves to Set Up a Sale In the Future

DETROIT—If you get the proper kind of ductwork for year-round residential air conditioning, plus a casing for cooling coil that will furnish comfort cooling, into a new home, a big step has been taken towards selling that home a year-round system even though a forced warm air heating system is all that is installed at the time the residence is built.

This might be especially true if there could be some constant reminder to the homeowner that he had a system all set up and ready for the installation of comfort cooling components with a minimum of time, disturbance to home routine and furnishings, and cost.

So reasoned Carl Beltz, sales manager of the air conditioning department of The Burton Co. here, distributor of residential and commercial air conditioning equipment. And that's why he set about to develop a method of reminding the homeowner of just that.

But first, Beltz points out, the necessary elements must be installed that will make the system ready for quick and easy installation of comfort cooling. Among these the casing, or chamber, or section for the cooling coil is all-important. If this particular element isn't installed, the rest of the program is without point.

"The extra cost is ridiculously small, sometimes as low as \$10 or even less, but it still is difficult to get the dealer to try to sell it to the builder," says Beltz.

And the "gimmick" that Beltz thought up to serve as a constant reminder to the homeowner that he has a system all ready for the quick and easy installation of comfort cooling, is a sign placed on the coil casing which says:

"This space ready for the installation of a comfort cooling system any time." Or, another sign that states "Enjoy Year-Round Comfort Add a Whole House Cooling Unit."

The impact of this sign on the homeowner and his family on a sweltering summer's day

can be readily imagined, says Beltz.

"It can almost have the effect like that of a schoolboy who has written 'I have been a bad boy' on the school blackboard," says Beltz. "The sign is there to confront him all of the time, and it can almost serve to shame him into getting a cooling system."



WHERE a dealer installs a heating system only, but has made the installation in such a manner that comfort cooling can easily be added at any time, it's good practice to paste a decal on the plenum where the cooling coil will be installed. The message on the sticker says "Enjoy Year-Round Comfort. Add a Whole House Cooling Unit."

Jenni Genetron says,

**"Always ask
your wholesaler
for
genetrons"**



Guaranteed!
EXCEPTIONALLY LOW MOISTURE
IN genetron®
SUPER-DRY REFRIGERANTS

Carrier Introduces Mobile Home Line

LOUISVILLE, Ky.—A complete line of products for mobile home comfort headed by a new year-round air conditioner greeted mobile home distributors of Carrier Corp. at their recent national meeting here.

Unveiled for its first public showing was the company's "Mobilemaster," claimed to be the first central heating unit for mobile homes to offer cooling as an option. John Ayer, Carrier sales manager, explained that now dealers can provide air conditioning to coach purchasers at the time of sale or at a later date.

Ayer stated that his company, which has doubled its line of mobile home products in the past six months, would promote them as the "Mobile Line" for year-round comfort. He detailed features of the recently released "Mobileray," a radiant heater for small coaches, and the "Roomette" air conditioner.

The distributors were told that a new retail finance plan now available to mobile home dealers and customers would add a new dimension to the company's sales approach.

WHEN M. H. Vanassche, East Detroit air conditioning and heating dealer, fails to sell year-round air conditioning at the time he installs a heating system, he usually tries to take all the necessary steps in making the installation to insure the easy addition of comfort cooling at a later date. Vanassche (at left) points to location of controls, so placed that they will not interfere with installation of cooling coil in amply designed plenum, while Carl Beltz, air conditioning sales manager for the Burton Co. indicates height of cooling coil that can be installed at a later date.



ATTENTION to small details at the time of the installation can make the later addition of cooling less costly and thus easier to sell. Here M. H. Vanassche points to location of heating unit near floor drain, which will permit easy and cheap installation of run-off for condensate if cooling is installed.



Installation Tricks Make Later Cooling Job Simple, Cheaper

EAST DETROIT, Mich.—One of the best promotion ideas for the sale of residential comfort cooling systems is to make sure that where an installation of a warm-air heating system is made without a cooling system, that proper provision be made all the way through the installation for the cooling to be added later.

M. H. Vanassche of Rene Vanassche & Sons, air conditioning and heating dealer here, makes an effort to do this on the heating systems that he installs, and these are some of the "check points" for this operation:

Make certain that there is enough space provided, in the proper place, for later installation of the cooling coil. This means that consideration must be given to the placement of controls, and such accessories as humidifiers and the like in the main heating unit assembly.

Ducts must be sized, insofar as is possible, to provide proper volume of air flow for comfort cooling purposes. The same consideration should be given in the selection of outlet grilles, which in some types should have dampers to change the direction of air flow when they are used for cooling.

Control wiring is "roughed in" for six wires, so that there need be no additional "pull through" work when the cooling system is installed.

Where possible, the heating installation is made near a convenient drain, to handle the condensate run-off from the cooling system without the necessity of a lot of costly piping.

"You can demonstrate to the homeowner that taking such steps can save him from \$150 to \$200 in the installation of a cooling system," says the dealer, "and this is a good talking point when you get around to trying to sell him the cooling system at a later date."

D-H Equipment Will Be Used In Manila Tobacco Warehouse

LOS ANGELES—Initial international business tagged by the newly-organized Climate Control International, Inc. here, under Barry Benson, president, is for Drayer-Hanson equipment to be utilized for air conditioning the tobacco processing plant of Williams Equipment Co., Ltd., outside Manila, P. I.

Involved are three D-H evaporative condensers (one PF-412 and two PF-408's); also a quantity of DX, 8-row coil.

Benson, for several years international sales agent for Drayer-Hanson and other industry manufacturers, recently incorporated his organization under the name, Climate Control International, Inc., and expanded his executive staff to include Irwin S. Harris, named vice president and secretary, and Andrew A. Gonzales, vice president and treasurer.

The firm has established central offices at 301 S. Harvard Blvd., Los Angeles 5.



GENERAL CHEMICAL DIVISION ALLIED CHEMICAL & DYE CORPORATION

40 Rector Street, New York 6, N. Y.



Learn How To Sell In 'Competition' (Selling Slant)

Advises Dealer Who Wants To Remain In Air Conditioning Business Successfully To Be a 'Cooling Man Right Now'

GRAND RAPIDS, Mich.— "We in the air conditioning industry must realize that we are competing with the appliance, home furnishing, and automotive industry for the consumer's dollar—and if we are to get our fair share of this dollar we must learn how to sell in competition with these people who have proven themselves in merchandising."

That was the key to the message given the Michigan Heating and Sheet Metal Association members at their annual convention here by Carl Beltz, sales manager, air conditioning division, Star Steel Supply & Burton Co. Beltz then outlined the type of merchandising in which the dealer or contractor

must engage to sell year-round air conditioning against those other fields that are competing for the consumer's dollar.

'Buy from Specialist'

"The du Pont survey on residential air conditioning showed that nearly seven out of 10 people who bought complete home air conditioning said that they made their purchase from dealers who they felt were specialists in this business.

"More and more evidence is being presented that the dealer who wants to remain in this business with any great success will have to be a cooling man, starting right now!

"There is no glamor in a piece of air conditioning equipment

as such. To sell air conditioning you must tell the story of its benefits, the comfort derived from it, the health story, the privacy it provides, the better sleeping feature, and the fact that Mrs. Housewife will have a much cleaner home.

'Assume Prospect Hasn't Read Ads'

"You may have been regarding the talk of these benefits as clichés, and assuming that the public has learned of them through advertising—but you'd better be prepared to bring them up to the prospect, and just assume that they haven't been reading the advertising.

"If you will remember that we as a nation want better

Are You Doing These Things To Really Be In Air Conditioning?

Is your place of business as attractive as that of the dealer who sold you all those appliances you have in your own home?

Do you really try to tell a prospect about the benefits of air conditioning, or are you assuming he knows all about it from reading the advertising?

Are you identified with the air conditioning business? Does your store window, letterheads, advertising, trucks, invoices, say so?

The dealer who wants to remain in this business with any great success will have to be a cooling man, starting right now!

Do you train your servicemen to talk air conditioning, and to leave literature on every call?

When asked for a quotation on a heating system, do you propose installation of a year-round air conditioning system with a heating system as the alternate?

Do you fill out proposals in neat, businesslike style, and hand them to the prospect in person?

things and believe in that premise, half of your battle will be won.

"You will all remember when

the car you drove had a hand-operated gearshift. Think of the selling and advertising campaign that the auto industry put on for automatic transmissions. Did they talk about the added cost, or the fact that it took more gas to run the car? They did not. They told your wife how easy it was to drive. The same thing was done with power steering and power brakes. These items were all sold to the women of the family first.

"Let's take a look at the appliance dealer who sold you all those appliances you have in your home. Let's take a look at his place of business and how he runs it. He has a show-room and displays his products effectively. He knows his products, its features and its benefits to the users, and he makes a point of identification with his business in every possible way.

'Is Your Showroom Clean, Attractive?'

"How many of those in our business have a showroom—and if so, is it clean and attractive? Are you up to date with your products? Do you have air conditioning in your office and in your home? If you don't, how can you expect to speak with authority on this subject? Listen to the radio and TV commercials and you'll hear the phrase many times 'I know because I use it myself.'

"Are you identified with the air conditioning business? Does your window say so? Do your letterheads, invoices, and advertising include the words 'Air Conditioning'? Is your truck attractive and well kept-up, and is it identified with air conditioning? We see so many trucks come to the warehouse with no mention of air conditioning.

'Serviceman Is One of Best Salesmen'

"One of the best salesmen you can have is your serviceman. See that he is well trained not only for service, but for selling. Remember, after the heating system is installed, he is your only contact with the customer. Train him to talk air conditioning, and to leave a brochure on every call.

"The serviceman doesn't have to be a 'closer,' but he can help you to find leads that you can sell. One of these days you'll be training a serviceman to take his place, and you'll have a sales engineer.

"Every time you install a heating system throw in a cool-

(Concluded on Page 22)

For your REFRIGERATION, AIR CONDITIONING and HEATING UNIT NEEDS . . .



Specify Quality-Controlled PHELPS DODGE COPPER TUBE!

- All tempers and sizes for use in original equipment.
- Straight length tube tempered to meet your bending and expanding specifications.
- Quality-controlled throughout manufacture to assure finest tube properties.
- Tubes degreased and capped, or dehydrated and sealed, if required.
- Deliveries geared to your production requirements.

*First for Lasting Quality
from Mine to Market!*



**PHELPS DODGE COPPER PRODUCTS
CORPORATION**

SALES OFFICES: Atlanta, Birmingham, Ala., Cambridge, Mass., Charlotte, Chicago, Cincinnati, Cleveland, Dallas, Detroit, Fort Wayne, Greensboro, N. C., Houston, Jacksonville, Kansas City, Mo., Los Angeles, Memphis, Milwaukee, Minneapolis, New Orleans, New York, Philadelphia, Pittsburgh, Portland, Ore., Richmond, Rochester, N. Y., San Francisco, St. Louis, Seattle, Washington, D. C.



★ **keep your profits—**

bank

on

trouble-free

Trouble-free operation—that's the first goal of Chrysler's Airtemp engineers! It's mighty important to Airtemp dealers, too. Soundly engineered cooling or heating cuts complaints and service calls! Result? Airtemp dealers *keep* their initial sale profits!

There are other reasons, too, why Airtemp dealers make more money—

- The Airtemp line is complete—really complete—with 297 cooling and heating models. They can satisfy *any* cooling or heating need!
- They sell the Chrysler name and Chrysler's famous engineering.
- *Pre-tested* merchandising helps and incentive programs.
- Special training for dealers and their personnel at Chrysler Corporation Service Centers.
- Factory advertising in your local markets.

Why don't *you* bank on Airtemp—the profit franchise? Just mail the coupon below.

CHRYSLER

Airtemp
DIVISION
CHRYSLER CORP

AIRTEMP DIVISION, CHRYSLER CORP.
DEPT. ACRN 3-58, DAYTON 1, OHIO

Please send me full information on an Airtemp franchise.

NAME.....

ADDRESS.....

CITY.....ZONE.....STATE.....

Meeting Competition--

(Concluded from Page 20)

ing coil case and explain why you are doing it. The cost is low and results can be excellent. Place a decal on the front of this case saying 'whole house cooling can be added here at any time' and be sure your name and telephone number is on the decal. Mr. Or Mrs. Homeowner will see that decal every time they walk by and some warm day you will have a sale for the cheapest advertising dollar you have every spent.

Use Quotation To Ask For an Order

"Another way to increase sales is to ask someone to buy. By this I mean when asked for a quotation on a furnace, propose year-round air conditioning with heating as an alternative.

"Let's get some dignity into

our business. Use the proposal forms that are available from your distributor or manufacturer. This is another salesman for you. Fill it out in detail, include a brochure on your product, and never mail it.

"One of the most successful salesmen I have ever known didn't believe that the post office could do his job for him, and delivered all his proposals in person!

"Another selling help can be an attractive book with pictures of your installations, your shop, showroom, trucks, and a short history of your company. People like to know who they are doing business with and take pride in telling their friends and neighbors about the contractors who do work for them. These people will become salesmen for you at very low pay!

"Every time you install a job,

place a sandwich-board sign on the lawn listing your business name and phone number. People are nose and when trucks pull up, neighbors look out.

"Major manufacturers have publicity departments that send our periodic releases on air conditioning. These releases have spaces where your name can be inserted as the spokesman. In the smaller towns particularly, you can take these to your newspaper editor and you will soon be known as 'Mr. Air Conditioning' for your area.

"When working with a builder on air conditioning, remember that a unit in the model is only on sale, and unless the builder and the real estate men are thoroughly sold on air conditioning and on your product, your chances on future sales are slim.

"Prepare the house with signs and displays telling the story you want people to get. Educate the builder and the real estate

salesmen, and you will have more people plugging your product. Builders and real estate salesmen work on the same basis that you do, and whether it is commission or gross profit, the extra dollars involved means added compensation to them.

"You will run into the 'nut and bolts' type of buyer who will want to know more than just what air conditioning will do for him. He wants to know how it works, how much it costs to operate, and how long it will last. If you are a dealer for a major line, and have taken advantage of all the educational help the manufacturer has offered you, and if you read the air conditioning trade journals, you should be prepared to answer such questions.

'Sell Knowledge, Skill, Company'

"Price is a safe factor to be sure, but remember, no one can advertise an installed central

residential air conditioner for any given price until he looks at the job, and that is the time to sell your knowledge, application skill, and your company. This is *not* the room air conditioner business.

"Remember also that people seem to want to buy from a specialist, and become one yourself. You've got to know what you're talking about and believe it."

Lewyt Built-In-Wall Air Conditioner Said To Offer 'Flexible' Heating

LONG ISLAND CITY, N. Y.—Lewyt Air Conditioner Corp. has developed a combination built-in wall unit that offers "flexible" heating during cold months and controlled air conditioning during hot weather.

Alex Lewyt, president, anticipates wide use of the new combination units in regions where seasons vary.

He said Lewyt engineers developed the unit after builders themselves requested combination heating and cooling machines that could be inexpensively changed on the manufacturing production line to meet the requirements of different rooms in a multi-story house.

"Each unit is connected with a building's hot water heating system, and built-in coils are installed according to the size of the room," it was explained.

"A room measuring 300 sq. ft. would have a unit with twice as many coils as used in a unit for a room measuring half the size—without enlarging the entire unit. An average room may be kept at a comfortable temperature even when -10° outside.

"The unit's cooling system has a 1-ton capacity, controlled by a thermostat. In appearance, the unit looks like built-in wall air conditioners produced by Lewyt in recent years—except that a special steel cabinet, housing the heating coils, fits snugly underneath. The combination unit does not project in the room, has no overhang."

Refrigeration

Blower Condenser Solves -40° Unit Cooling Problems

BERLIN, N. H.—Cooling the water used in refrigeration equipment at Vaillancourt's supermarket here posed more than the usual problems.

Because winters are severe in New Hampshire, a cooling tower was deemed impractical.

Moreover, a large producer of wood-cellulose for the rayon and paper industries is located only a short distance away. And the sulphite fumes discharged by the mill, if permitted to come in contact with water, would form sulphurous acid, which would be extremely harmful to the refrigeration equipment.

Also, the water-saver selected had to be quiet in operation so as not to disturb occupants of nearby apartments.

A Dunham-Bush BC-2000B air-cooled blower condenser was installed and has solved the many problems—even to functioning without interruption during last winter's -40° to -45° temperatures in Berlin.

TWO TO FIFTY

LARKIN COOLING TOWERS ARE AVAILABLE IN 18 MODELS—2 TO 50 TONS CAPACITY



Success is Built On These Features

- All models available with propeller fan. Centrifugal blower optional on all models through 20 tons
- Wetted surfaces are of all-heart redwood, with nailless, interlocked construction, and are easily removed
- More wetted surface assures conservative ratings
- Bolted construction—unit is easily dismantled in the field all the way down to the sump
- Panels are 16-gauge and sump is 12-gauge steel
- Entire unit finished with epon base, zinc-chromated primer, and two coats of melamine baked-on enamel
- Mastic-coated interior
- Intake screen available as optional equipment
- Two- and three-ton models with fan have direct-drive, totally-enclosed motors. All other models are belt-driven with drip-proof motors

- Propeller fan and blower assembly are easily inter-changeable in the field
- Centrifugal blowers have self-aligning graphited bronze sleeve bearings mounted on outside for easy lubrication
- Belt-driven propeller fans have oil-impregnated bronze bearings with oil line and cup for easy oiling
- Stainless steel shafts on belt-driven propeller models
- Blowers and propeller fans are hot-dip galvanized and dynamically balanced after fabrication
- All-bronze float and float valve
- Gravity-type distribution basin—low pumping head over tower
- Distribution basin cover supplied as standard equipment
- Water outlet in sump has large strainer and anti-cavitation plate, easily removed for cleaning

From every corner of America has come high praise for the LARKIN Water Saver Cooling Tower because it is meeting the needs of users so well, so economically.

The LARKIN Water Saver is now available in 2, 3, 5, 8, 10, 16, 20, 25, 30, 40, and 50-ton models. Compare the features of these quality

units and see why they have grown so fast in popularity.

And remember, the LARKIN Water Saver is also a money-saver—sells at a price that gives you a competitive edge.

Get in touch with your wholesaler now, or write us for additional information.



LARKIN COILS INC.

519 Memorial Drive, S.E. • ATLANTA, GA. • MURRAY 8-3171

EVERYTHING IT TAKES TO SELL MORE AT A PROFIT

✓ A plan that
makes sales easier

Everything you need
to attract customers...

A complete package of sales aids . . . big, illustrated *handout pieces* . . . a 4-piece mailing campaign . . . attractive *window banner* . . . an exciting *floor display* . . . and a "Sell by Phone" booklet that gives you full instructions on using this fast, profitable sales technique.



The tools to help you
close the sale...

Complete sales training and presentation booklet tells your salesmen how to approach the customer . . . what to say during the presentation . . . and provides a fast, easy cost calculator so salesmen can make accurate estimates without long training.

Then, for that final sales push . . . you can offer a special thermostat that controls both heating and cooling automatically for both night and day temperatures.



An exclusive way to
contact thousands of
prospects at no charge...

Exclusive, builder's display plan provides financing for you to install RCA WHIRLPOOL air conditioners in model homes put up by builders in your area. It costs you nothing and thousands of prime prospects see how RCA WHIRLPOOL central air conditioning systems operate in modern homes.

Use of trademarks and RCA authorized by trademark owner Radio Corporation of America

with nationally known



Whirlpool

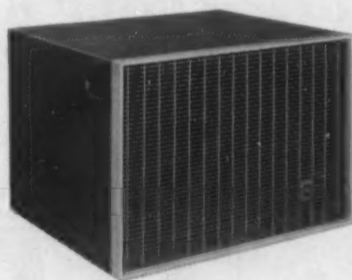
AIR CONDITIONERS!

With over 500,000 U.S. families already enjoying central air conditioning, the question is no longer, "what are customers waiting for?" . . . the question is, "what are *you* waiting for?" The market is ready, the profits are waiting, and now — with new RCA WHIRLPOOL air conditioners — you can have everything it takes to get into the central air conditioning business. You have a known and accepted brand name with a reputation for high quality and dependability . . . you have a powerful sales plan . . . a new, exclusive, simplified installation package . . . and the most liberal financing ever offered. Get all the facts now to put you into this new, ready market for RCA WHIRLPOOL air conditioners where profits are unlimited! Tear out and mail the coupon below, today!



A complete line

Self-contained unit (combining both a refrigeration unit and coil-blower in one) in 2-horsepower capacity. Ideal size for homes, small stores, offices. Extra easy installation . . . in an attic, basement, garage, car port.



Two-unit system . . . separate refrigeration unit may be installed anywhere, even outdoors — the cabinet is impervious to weather. Compact coil-blower unit installs inside, fits even small crawl space. Capacities range from 2 to 5 horsepower, offering a selection of models to meet most every air conditioning need.



As little as
8 hours to install

... with exclusive, Pre-Fab duct system.

Every possible job has been done at the factory to make installation fast and easy. Ducts are pre-cut into easy-to-handle sections . . . they're insulated and ready to fit together . . . ceiling or baseboard diffusers are designed to practically snap in place. With just 2 men on the job, a complete RCA WHIRLPOOL air conditioning system can be installed in an average home in 8 hours. Installation is even simpler in homes where existing heating ducts can be used.

MAIL THIS COUPON NOW
FOR COMPLETE INFORMATION!

SALES MANAGER, AIR CONDITIONING DIVISION
WHIRLPOOL CORPORATION, Box ACN-3
St. Joseph, Michigan

I am interested in knowing more about
RCA WHIRLPOOL central air conditioning systems. Please send me complete information.

NAME _____

FIRM NAME _____

ADDRESS _____

CITY & ZONE _____ STATE _____

RCA WHIRLPOOL Home Appliances
Products of WHIRLPOOL CORPORATION St. Joseph, Michigan

Join up!...it's easier to sell RCA WHIRLPOOL than sell against it!

Inside Dope

By GEORGE
F. TAUBENECK

(Continued from Page 1, Col. 1)

Unhappy Engineers

How do you attract and keep bright young scientists and engineers?

The University of Michigan's Bureau of Industrial Relations presents suggestions in a recent report. Based on findings from a two-year study of 400 research and engineering personnel, this report carries considerable authority.

Too many promising youngsters, the University of Michigan reports, are chafing at what they believe to be needless organizational restraints—particularly "corporate stuffiness" and red tape.

Furthermore, those scientists

and engineers who respond best to the challenge of a problem in basic research seem to resent managers who "peer over their shoulders."

To University of Michigan interviewers, employed engineers complained:

"There isn't enough recognition for personal achievement.

"Scant effort is made by management to ascertain a person's special qualifications, or to assign tasks best suited to individual interests and abilities.

"Their talents are not used to the maximum extent.

"Engineers spend much too much time and effort on routine chores.

"Contributions to corporate profits are not sufficiently appreciated, nor rewarded adequately.

"Supervisors fail to support their efforts, or to exert themselves in obtaining necessary

equipment and supportive services."

To top management the U. of M. research investigators recommend more thorough attempts to understand personal motivations of scientists and engineers. Specific advice to executives:

Be generous with praise for accomplishments;

Encourage irregular hours overtime work ("midnight oil,") and personal participation in professional activities.

Don't discourage creative engineers just because they wear peculiar clothes, drive a Volkswagen, work 36 hours at a stretch then disappear for a few days, or "otherwise refuse to conform to an established corporate norm."

That screwball who doesn't own a gray flannel suit may find a cure for cancer in the test tubes he watches patiently long past Saturday midnight.

Refrigerated Missiles and Air Conditioned Space Travel

Hidden under "Top Secret" files in the Pentagon is the fact that refrigeration is vital to the manufacture and launching of long-range missiles, and to the "re-entry" of these dinguses into our Earth's hot-breath atmosphere.

Furthermore, air conditioning equipment (astoundingly miniaturized) will be an essential ingredient of all interplanetary "space ships." That we know.

It might take two years and eight months for a round trip to Mars, and two years and three months to ship around Venus. On such trips, Dr. John Lyman of the University of California has suggested, an interplanetary pilot may have to be unconscious most of the time to lick the psychological hazards of bore-

dom and loneliness, and to reduce food and air intake.

Successful refrigeration anesthesia in surgery suggests the possibility of lowering a pilot's metabolism, food requirements, and consciousness during such long space flights. (In attempts to control cancer growths, human body temperatures have been lowered down to 40° F. for a period of six months without harm to the patients.)

Recently outer-space-ship researchers have lowered body temperatures of adult monkeys down to 39.2° F., with complete heart stoppage, without any detectable after-effects.

Space ship people could remain unconscious for long months under refrigeration, it would seem. Hence social, bodily functional, and recreational problems would not exist.

Lessened living room and food requirement would ensue. Obviously, food and liquids would have to be supplied automatically. That could be done, no strain, under refrigerated anesthesia.

Outer Space Voyagers will be refrigerated and air conditioned!

Out of Our Mailbag

Chrysler Corp.
Detroit 31, Mich.

Editor:

Last night after everyone had left the office I sat down to quietly read this week's edition of AIR CONDITIONING & REFRIGERATION NEWS.

First I took a good look at "Inside Dope." It occurred to me that perhaps you might be interested in a story which to me was new and relatively amusing.

Two fathers were pacing the floor in front of the delivery room in a city hospital. One father said, what a heck of a way to spend a vacation. The other father replied: You think you got troubles? I'm on my honeymoon.

KEN L. CRAPEAU,
Special Products Manager,
Export Div.

Pacific Heating & Cooling
Pacific Beach, Calif.

Dear Dope:

My daughter's 9th grade science teacher has what I think is a clever and unique way of presenting science lessons to her class. She writes jingles to illustrate each phase of science. I have the teacher's permission to send this one to you, and you

(Concluded on Page 28)

New low-cost, high-capacity thermostat controls several circuits with a single dial

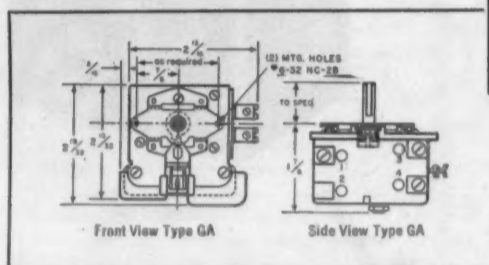


WILCOLATOR SERIES GA PROVIDES
OFF—FAN ONLY—FAN and COOLING

In the new Wilcolator Series GA thermostat, a built-in switch—cam operated by the dial shaft—makes it possible to control several circuits with a single dial and disconnect more than one line when the dial is in Off position. In air-conditioner applications, this provides for Off, Fan Only, and Fan and Cooling.

Featuring an improved snap-action switch for higher contact ratings, these compact, low-cost thermostats have ample capacity for heavy duty appliances and medium industrial requirements. Amplitude factory set to your specifications. Contact mechanism not affected by vibration. Can be used with any dial or pointer having a 1/4-in. shaft hole.

For more information, write The Wilcolator Company, 1001 Newark Ave., Elizabeth, N.J. In Canada: Wilcolator (Canada) Ltd., 221 Evans Ave., Toronto 14, Ont. Export Address: Wilcolator, 1010 Schaff Bldg., 1505 Race St., Philadelphia 2, Pa.



SPECIFICATIONS

Standard temperature range: 0°F min.; 585°F max.
Special temperature ranges: To customer's requirements
Type G1-A: Contacts open on temperature rise
Type G2-A: Contacts close on temperature rise
Contact ratings: (Type G1-A) 30 amp, 125 and 250 v a-c noninductive load
Motor ratings: (Type G2-A) 120 to 240 v a-c; running current—14 amp; locked rotor—60 amp
Mounting: Back of panel or in enclosure
Terminals: Screw type, AMP or Arkles; standard shaft size—1/4 in. flatted to .156 in.; length to customer's specifications

THE Wilcolator
COMPANY

MANUFACTURERS OF LIQUID EXPANSION ELECTRIC THERMOSTATS FOR:
ELECTRIC RANGES • ROOM COOLERS • AIR CONDITIONERS • CLOTHES DRYERS • SPACE HEATERS • ROLL WARMERS • ROASTERS • FRYERS • STEAM TABLES • WARMING OVENS • RANGETTE OVENS • WATER HEATERS • BAKE OVENS, ETC. • STOCK WATER HEATERS • RESTAURANT APPLIANCES • VENDING EQUIPMENT • PACKAGING MACHINERY • PHOTO DRYERS • BLUEPRINT MACHINERY • ETC.

ALL WILCOLATOR THERMOSTATS ARE UL LISTED AND APPROVED

NOLIN
Moisturizer
VEGETABLE CASE



AVAILABLE IN
5' • 8' • 10' SIZES

If It's Not a NOLIN, It's Not a MOISTURIZER

NOLIN MANUFACTURING COMPANY
1400 LLOYD ST. PH. 3-4454
MONTGOMERY, ALABAMA

the quality tells... the quality sells

new **JANITROL**[®] waterless
ADD-ON COOLING SYSTEM



adapts most any warm air furnace
for powerful, efficient summer cooling
... features exclusive PRIDE O' YARD
air-cooled compressor-condenser unit





JANITROL®
gives you
the

Golden Key TO PROFITS

in air conditioning

...with this 7-point program for SALES

1

A complete quality line...including the most powerful air-cooled "add-on" unit in the industry!



NEW JANITROL SRA

Powerful, quiet performance with outside temperatures to 125° F.—modern, space-saving design—easy to install—moderate pricing—these are just a few of many reasons you'll make more money with the Janitrol SRA "ADD-ON" Cooling Conditioner!

It's a natural for the lush modernization market. Adapts most any warm air furnace for full central cooling. No floor space needed. Evaporator coil mounts in duct in either upflow or downflow systems. Waterless operation eliminates plumbing, sewage, water supply problems. 2, 3, 4, 5 and 6 HP sizes.

Exclusive "PRIDE O' YARD" Compressor unit, styled by a leading designer, is specially-engineered for operation with outdoor air up to 125° F. And its beautiful, streamlined housing completely outmodes them all—eliminates that undesirable "dog house" look!

No doubt about it! The Golden Key to Profits is yours with this great new Janitrol SRA and all the other models in Janitrol's complete line of air-cooled and water-cooled conditioners. PLUS—2, 3, 4, 5, 6 and 7 in Janitrol's new 7-point program for sales!



JANITROL HEATING AND AIR CONDITIONING DIVISION
Surface Combustion Corporation, Columbus 16, Ohio

Please show me how Janitrol's 7-point program for SALES can give me the GOLDEN KEY TO PROFITS.

NAME _____

COMPANY _____

ADDRESS _____

CITY _____

ZONE _____

STATE _____

4482 SRA

Fill in and MAIL TODAY!

2 new, low trade net prices

Advanced Janitrol engineering—new automated production methods—volume building sales leadership—all add up to more profits on every sale. This new Janitrol pricing plan lets you move in on competition with top-quality Janitrol products at *really competitive prices!*

3 new dealer stocking plan

As a Janitrol dealer qualified under this new plan, you'll keep your working capital *working*, instead of "freezing" it in inventory. You'll have the inventory you need for prompt deliveries, better service, year 'round.

4 new retail customer finance plan

Makes Janitrol cooling and heating easily available to the six out of ten families who haven't the cash but have the credit... on easy installment terms. No down payment. Up to three years to pay. Finance up to \$3500. No risk or recourse to dealer, no collection problems. Eliminates red tape and delay. Keeps "hot" prospects from cooling off!

5 new local level promotions — to the rich modernization market

A high-impact, sales-producing merchandising program created by Janitrol for your needs, your market, your profit ambitions! Newspaper ad mats, radio and TV musical announcements, window and in-store displays, color-illuminated outdoor signs—all yours as a qualified Janitrol dealer. And Janitrol sets up the complete program to the last detail, saves your time for selling.

6 new builder promotion package

A complete merchandising program to help you snare your share of the new house market. Chock full of tested promotion ideas that give you a running start on competition—let you offer the builder a service that enables him to upgrade his houses with quality Janitrol equipment, appeal to more prospects, *stay competitive!*

7 new select dealer program

Today, Janitrol recognizes a new era in company-dealer relations. The days of "playing it by ear" are no more. There's a need for continuing close cooperation between both parties—an "open door" for exchange of ideas. The Janitrol Select Dealer Program makes these things possible, and gives you extra benefits besides. Business development counsel, training schools, prizes, vacations, to mention a few. Right now's the time to qualify!

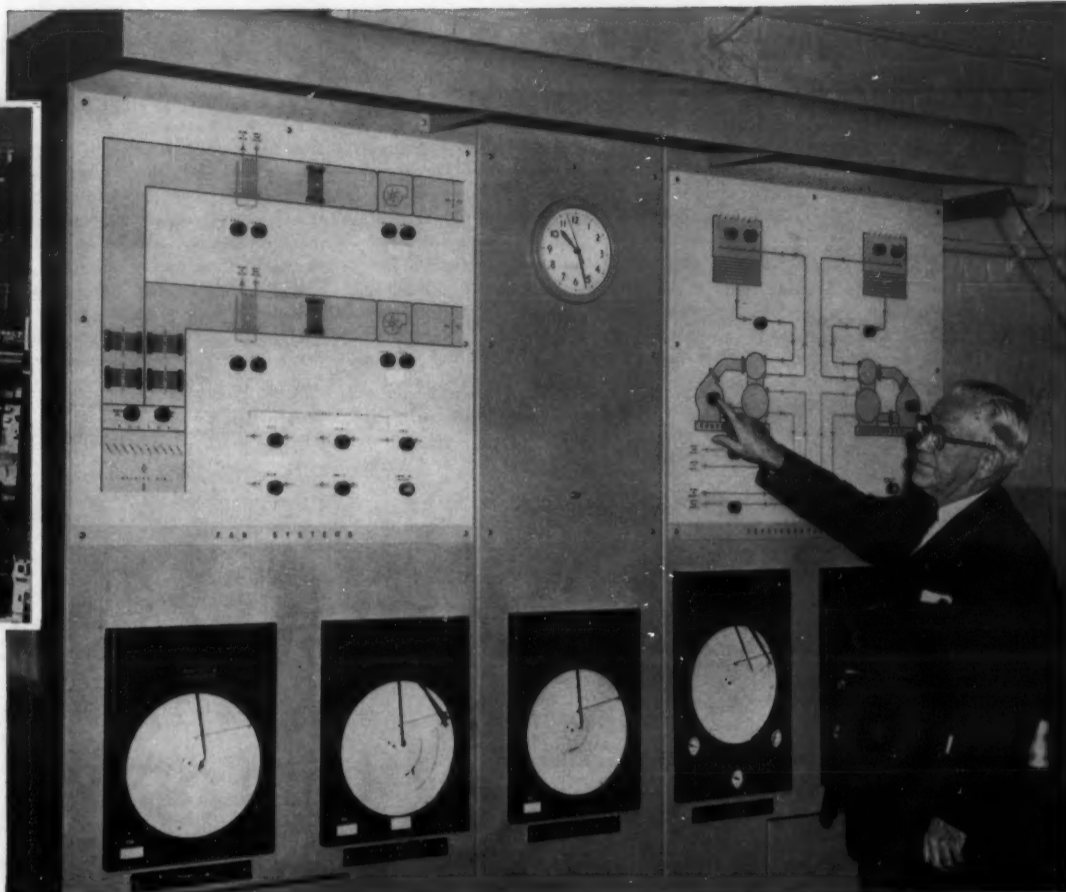
get your *Golden Key* TO PROFITS
with **JANITROL®**

Ask your JANITROL representative for the facts or **RUSH THE COUPON TO US!**
NO OBLIGATION!

Complete line of gas and oil furnaces, unit heaters, conversion burners, water cooled and air cooled summer conditioners, combination heating-cooling conditioners.

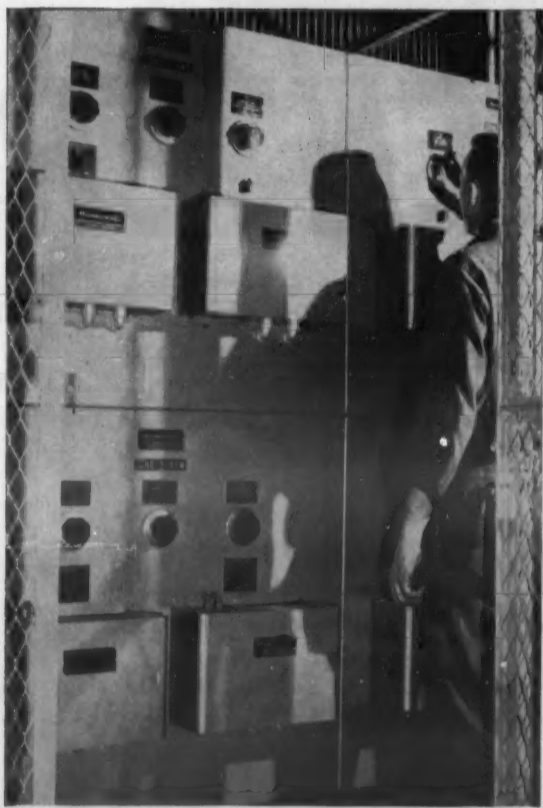


ABOVE: 2,633 rooms—the top twenty-one floors of Chicago's Conrad Hilton Hotel—were recently air conditioned with a 1,600-ton, four-zone, high-pressure induction-unit system—believed to be the largest commercial installation in the world. The first four floors of public areas are cooled by existing package units and individual systems.



RIGHT: Harold M. Toombs, chief engineer of the Conrad Hilton, at a panel which controls the air conditioning. Touching a button, he starts one of the two 840-ton compressors in the refrigerating system that chills water for distribution to individual-room units. Right half of panel controls fans which send filtered, washed air to each room.

How to install central air conditioning in a hotel without disturbing guests



ABOVE: Panels, shown, control temperature of chilled water in each of four zones. Temperature can be adjusted manually 5°F. above or below a pre-set system temperature. Each zone consists of rooms with similar exposure conditions. Tenant can also adjust room temperature 5° above or below set zone temperature.

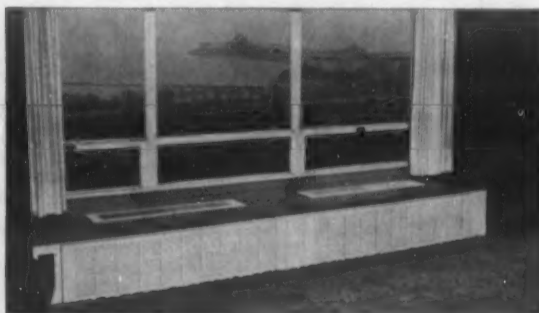
Chicago's 2,760-room Conrad Hilton adds "Freon"-charged, 1,600-ton system with no loss of room revenue

With carefully preplanned work schedules and prefabricated components, central air conditioning can be added to a hotel while near normal activities continue. An example is the recent installation of a York 1,600-ton central air conditioning system in Chicago's Conrad Hilton Hotel. 2,400 feet of reinforced concrete were pierced, and 3,400 induction units were installed in 2,633 rooms. It was all done without loss of room revenue and with minimum disturbance to the guests.

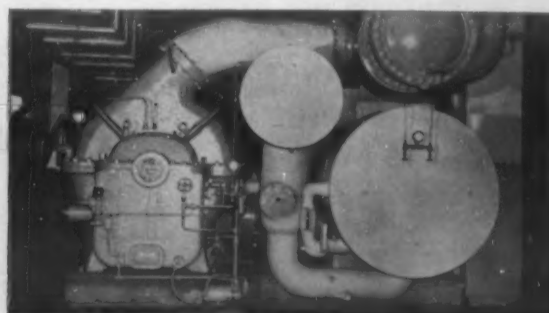
Room checkout time was moved to 8:00 A.M. At 8:30 contractors moved in, scheduled work was done in a room, and it was ready for occupancy by 5:00 P.M. Ductwork and piping components were prefabricated in an adjoining building in room-by-room sections.

Each room installation was made in a few hours after drilling and electrical feeders, service outlets and telephone lines had been put in. Work took about 8 months and was completed 3 weeks ahead of schedule.

Heart of the system is two York 840-ton centrifugal compressors charged with Freon®-11 refrigerant. "Freon" was chosen because of its proven safety, performance and over-all economy. No maintenance problems have developed, and no "Freon" has been added since the system began operation. To assure the same trouble-free performance for your equipment, be sure you specify "Freon" refrigerants on every order. E. I. du Pont de Nemours & Co. (Inc.), "Freon" Products Division 103, Wilmington 98, Delaware.



ABOVE: Shown is induction unit in a penthouse suite which delivers tempered air to the room. Each unit takes 50-70 cfm of filtered, washed air at 9 psi. Chilled water passes through coils in each unit to cool and dehumidify this air. In winter, unit handles water heated by the building's existing steam system.



ABOVE: Shown is one of two 840-ton compressor-condenser-turbo chiller units manufactured by York. The two units chill a total of 5,500,000 gallons of water a day for distribution to 3,400 induction units in 2,633 rooms of the hotel. Each refrigerating system is charged with 2,000 lbs. of "Freon" refrigerant.

FREON® REFRIGERANTS

*Freon and combinations of Freon- or F- with numerals are Du Pont's registered trademarks for its fluorinated hydrocarbon refrigerants.



REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING... THROUGH CHEMISTRY

Inside Dope Toledo To Crack Down on Warm Air Heating Installations Done Without Proper Permits

By GEORGE F. TAUBENECK

(Concluded from Page 24)

may publish it if you want. Whether you print it or not I am sure you will enjoy it.

HARRY M. JAYNES

When conduction is the rule
Molecule bumps molecule,
Bumping on from hot to cool.

Convection (liquid OR a gas)
Molecules speed up (in mass)
Currents form as masses pass.

Radiation's source is seen.
You're hot—and yet it's cool
between
(You're really hot is what I mean.)

Black will absorb it—white
reflects it
WHEN it hits—THEN you
detect it.

Where there's heat a student
finds
The molecules do bumps and
grinds
When the molecules are cold
They dance as if they're tired
and old.
Molecules move farther—
faster
When they're hot—they break
the plaster.
Heat is vivacity—cold—inca-
pacity.

Temperature is the degree
Heat is total energy.

To illustrate—you have cold
feet
A brick will give your toes
more heat
Than a little pebble will all
right
Though both are 110 Fahren-
heit.

Everything with mass
Is solid, liquid, gas.
The molecules speed up—it's
hot.
The molecules slow down—it's
not.

But watch the critical values
—they
May break the rules that pave
the way
For, lo! at 32 degrees
The ice will melt the water
freeze.

MRS. CHARMAN,
9th Grade Science Teacher
Pacific Beach Jr. High School
Pacific Beach, Calif.

Detroit Warm Air Group Will Discuss Service At Mar. 13 Meeting

DETROIT—An entire evening devoted to a discussion of service problems is planned by the Detroit Warm Air Heating Association for Thursday, March 13.

Harold Bowie of Gas Burner Service will moderate the discussion. Meeting will start at 8 p.m. in the Fort Shelby hotel.

SEND FOR REPRINTS

Product Knowledge, Protective Maintenance, Trouble-Shooting, Adjustment, Repair of Electric Motors.

Only 40¢ each.

For your copy, clip this ad and mail with name and address to: Air Conditioning & Refrigeration News, 450 W. Fort, Detroit 26, Mich.

TOLEDO—The city inspection division is cracking down on local warm air heating contractors who have been installing heating equipment without getting required city permits for inspections, Leonard E. Leis, inspection commissioner, reported.

Leis and Harvey J. Gavin, warm air heating inspector, said that several cases in which contractors have been installing heating equipment illegally have been uncovered recently.

Leis said that illegal installations could be a particular danger to the public because im-

properly installed heating equipment can cause fires, explosions, or asphyxiation.

One warm air heating contractor's license recently was revoked, with the understanding that he will be allowed to retake the city examination if he gets proper permits for the illegal

installations he has made, Leis said.

Leis and Gavin asked householders to be on the lookout for installations that are done without proper permits or inspections.

Any warm air furnace, furnace conversion, or piping change requires a city permit and city inspectors will place a tag on the work showing that it has been inspected, it was explained.

NOW from the company
that gave you the Carrier
Weathermaker Home...

NEW 
THERMO-CENTER

saves hundreds of dollars
on the cost of new home
air conditioning!

Phone your Carrier Distributor for complete details,
or write: Carrier Corporation, Syracuse, New York.

Dramatizing Heat Pumps Helps Firm Push Conditioning Sales Year-Round

DOTHAN, Ala. — Year-round merchandising efforts (even pushing air conditioning systems as Christmas presents), plus taking advantage of the dramatic aspects of the heat pump, have helped Vance Equipment Co. to post sales of some 600 package air conditioning units through its own organization and the dealers which it serviced in the

past year in the surrounding area.

DEALER-DISTRIBUTOR

The firm, headed by T. B. Thomley, serves as a dealer for a major line of conventional air conditioning equipment, and as both distributor and local dealer for a heat pump line. In the past two years, merchandising efforts have been concentrated

on central residential air conditioning systems with the heat pump as a "calling card."

"Heat pump package units for year-round air conditioning have attracted a lot of interest because of the economy factor," said one of the Vance staff, "to the point where we can almost always depend on making an appointment with a prospect.

Whether or not the heat pump type of installation fits the situation, it has been valuable in getting us inside the home.

"Through most of the year, we publicize heat pump cooling via a popular TV program and use slides of typical installations in both farm and city homes.

Heat pump promotion was carried on a continuous basis

throughout the year in newspaper, radio, and TV advertising, and this seemed to pay off in the Christmas holiday season. In the 90 days previous to Christmas, some 20 year-round air conditioning systems were installed, some of them obviously as "Christmas gifts for the family."

FEATURE CAREFUL ENGINEERING

"We feature careful engineering on heat pump installations and strive to get a lot of publicity on every job," said a company representative. "Frequently, local newspapers will run an item when a family air conditions the home, and we often try to tie in some advertising.

"In those heat pump installations where the heating capacity may be on the light side, we provide supplemental heating with electric strip heaters, and

Selling Slants

thus guarantee satisfactory heating, and this has often clinched a sale for our firm."

How well Vance Equipment Co. has done in selling comfort cooling is demonstrated by the fact that over the period of a year it sold 45 central residential air conditioning systems, in comparison with 100 central heating systems. And many of the heating systems have been installed for easy installation of future cooling, with proper duct sizing, vapor barrier treatment, and correct air outlets.

PUSHES FUTURE COOLING IDEA

Vance attempts to put this over not only with the individual home buyer, but also with the building contractor, and uses decals on heating unit to acquaint the home buyer that his house is ready for immediate air conditioning if desired, and a steady barrage of direct mail after the family is settled in the home.

The dealer-distributor has made it a point to keep up with progress with its installation and service equipment. For example, it maintains one of the most complete sheet metal shops in southern Alabama, with two oversize brakes typical of the facilities. The ability to prefabricate such work for both commercial and residential installations and to maintain a stock of made-up ducts for almost any type of job has speeded up installation work and resulted in savings in costs.

Heavily stressed in all merchandising operations are top-flight service facilities, including service trucks equipped with microwave radio, dispatched by a full-time woman dispatcher in the showroom.

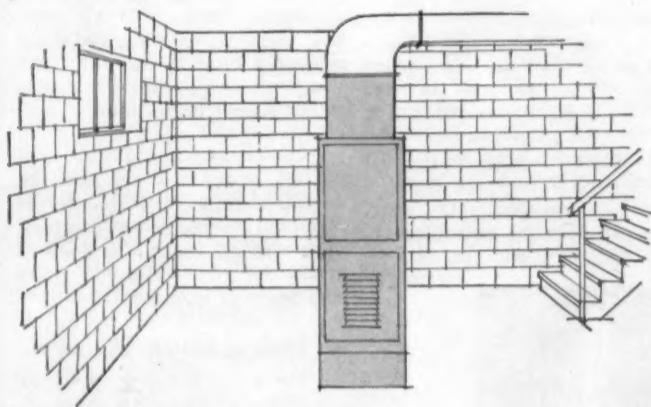
Four servicemen are constantly on call for quick repairs on air conditioning jobs, and a plumbing division, operating from the same headquarters, offers a crew of experienced plumbers for wet system installation and service.

SEND FOR REPRINTS

Product Knowledge, Protective Maintenance, Trouble-Shooting, Adjustment, Repair of Electric Motors.

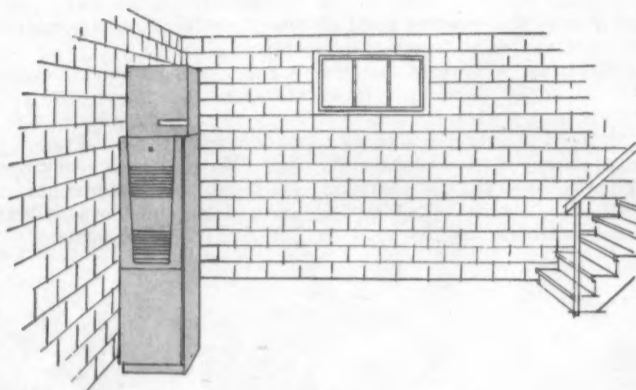
Only 40¢ each.

For your copy, clip this ad and mail with name and address to: Air Conditioning & Refrigeration News, 450 W. Fort, Detroit 26, Mich.



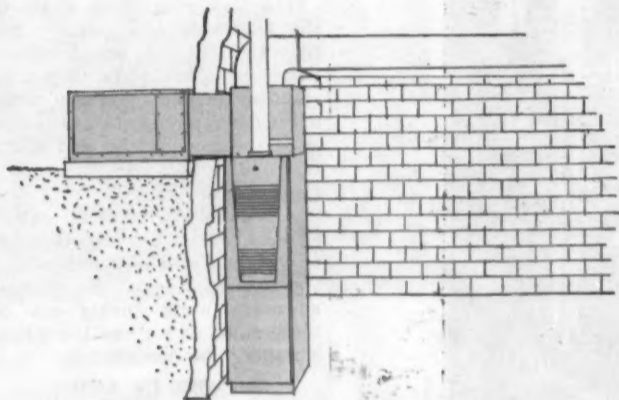
1. GONE ARE THE DAYS...

when the furnace was planted in the middle of the basement. That was good enough when people were satisfied with heating only. But today they want air conditioning, too — and they want it at low cost.



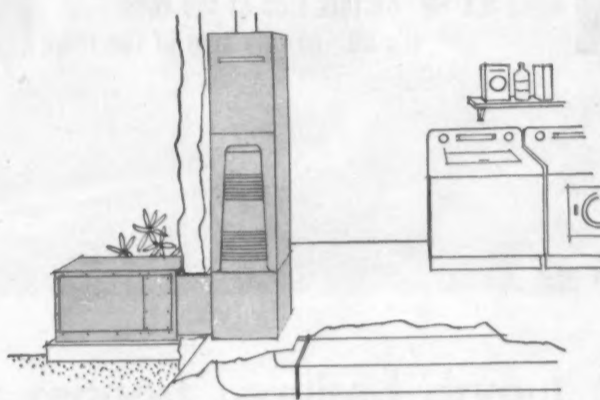
2. SO CARRIER MOVED THE FURNACE...

from the center of the basement over against an exterior wall. Now, the way was opened for a new kind of year-round air conditioner: the Carrier Thermo-Center which costs hundreds of dollars less than conventional systems.



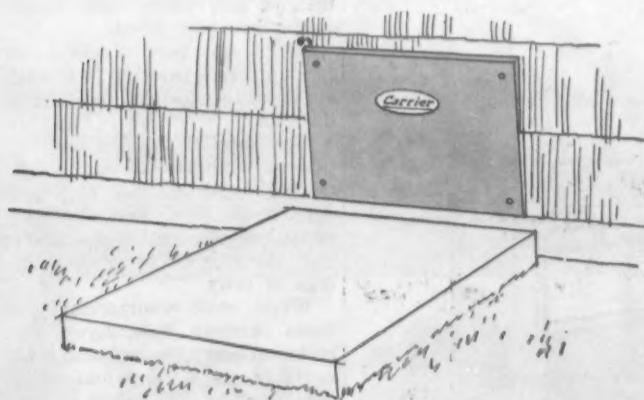
3. IN A HOUSE WITH A BASEMENT...

a plenum is set on top of an upflow Carrier Winter Weathermaker. A short duct goes through the wall, connecting the plenum with the cooling section located just outside. No water or refrigerant piping is required.



4. IN A MODERN SLAB HOUSE...

a plenum is placed underneath a downflow Carrier Winter Weathermaker. Then the same procedure is followed. A short duct through the wall connects the plenum with the cooling section located just outside. Quick, simple, easy!



5. THE OPTION IS YOURS

You can install a complete Carrier Thermo-Center when the house is built. Or omit the cooling section. Carrier provides a metal cover for the wall opening which reminds the home owner how easily he can add cooling later.



6. EITHER WAY YOU GO...

the Carrier Thermo-Center enables your salesmen to talk to their prospects about the many year-round benefits of home-wide air conditioning. They can have it now or add in the future — either way at unbelievably low cost.

Numbers Keep Scientific Data on Need For Conditioning Handy for Salesmen

AUBURN, N. Y.—Salesmen at Remington Corp. have developed a new means of "tucking away in their minds" certain information of interest to nearly every room air conditioning prospect.

By the method of numerical relationships, or "handy numbers," information obtained from reliable scientific sources on the need for "true" air conditioning is given to each salesman.

These handy numbers may tell the prospect "something vital" about the most interesting subject in the world to him—himself, the company insists.

1. The daily diet of the average man consists of only 7 lbs. (3.2 kilos) of food and drink but of 34 lbs. (15.4 kilos) of air.

2. In the average large city, man's annual diet of germ-laden dust is equal to 24 oz. (675 grams).

3. Man's stomach normally takes food only three times a day, but his lungs take air 15 times every minute or 21,600 times every day.

4. The average man at rest gives off enough heat to raise the temperature of more than one quart (or one liter) of ice water from the freezing point to the boiling point every hour. (Technically expressed as 400 B.t.u.h. or 101 kcal. per hour. This is also enough heat so that if it could be converted to electrical energy it would constantly light two 60-w. electrical lamps.)

Often, claims Remington, these numbers can be used to

arouse or hold the interest of a prospect. They may tell him something he may not have known or may not have thought of in relation to his need for the benefits of "true" air conditioning.

Selling Slants

Airtemp Hosts 95 Dealers at Plant

DAYTON—Eighty air conditioning dealers from Philadelphia and 15 dealers from Phoenix, Ariz. flew to Dayton recently for a one-day visit of the Chrysler Airtemp manufacturing plant.

The Philadelphia dealers, traveling by chartered plane, made the trip as guests of their distributor, S. S. Fretz, Jr., Inc. The Arizona contingent journeyed by commercial airliner. Their host was Climate Control, Inc. of Phoenix.

Sells Room Air Conditioners by:

Sending Salesmen with Installers; Taking Free Filters to Last Year's Customers; Using Season-End Ad Campaign

FINDLAY, Ohio—The same techniques that sell white goods for the Lynn Lyon Co., Frigidaire dealer here, also sell window air conditioners.

But commercial unit sales are something else again, according to R. D. Scott, salesman for the company.

CANVASSES NEIGHBORS

One effective technique to sell window units is to send a salesman along with the installation crew. While the crew is busy putting in an air conditioner in a home, the salesman calls next door on either side, across the street, and behind the home.

It is surprising how many sales can be made among neighbors who find out that an air

conditioner is going in near by, Scott said.

Another technique that has produced results is to take new filters out to customers who purchased cooling units the previous year.

"The filter is prominently marked 'free' so the customer does not feel you are trying to sell her anything," he related.

"Many times you will find that she has forgotten that there is even a filter in the unit. She wondered why the air conditioner wasn't performing as well as it used to.

"Removing the old filter and putting in the new one puts the customer in a favorable frame of mind. Having a year's experience with air conditioning she is ready to add additional units and possibly even consider cooling the entire house.

CHECK HOME NEEDS

"The gift filter also gives the salesman a chance to check on appliance needs in the home."

A third source of window air conditioner business is among customers completing their time payments through the General Motors Acceptance Corp. The finance company sends the dealer a card just before the customer makes her last payment.

The salesman then contacts the customer and advises her that she can buy an air conditioner or other piece of equipment on the same contract without a down payment. This looks good to the customer and many take advantage of the opportunity, Scott said.

A fruitful source of air conditioner business has been through advertising special prices at the end of the season. "We've sold as many units during one of these sales as we had the whole summer," he commented.

'COME IN AND COOL OFF'

On hot days last summer, Lyon put an air conditioner out on the sidewalk and enclosed it in a transparent plastic tent. Passersby were invited to step inside and cool off.

"We can't attribute any sales directly to this gimmick," Scott said, "but I'm sure it got the idea of air conditioning percolating in many minds."

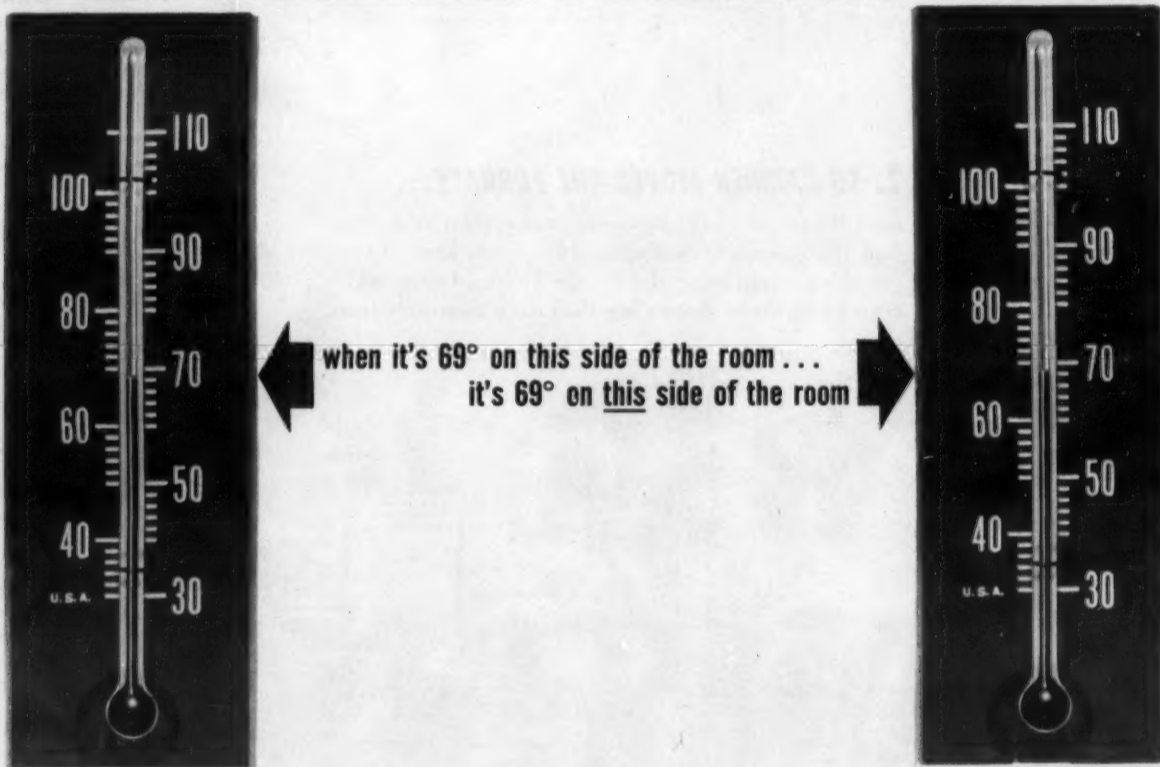
On the commercial side, Lynn Lyon stresses prestige in selling. He is in an excellent position to do this.

His firm has aggressively pushed commercial air conditioning for a number of years. As a result, Scott said, the company has air conditioned about half the stores and office buildings in town.

While most commercial jobs come through bids, Lyon also picks up many leads through his contacts in Rotary and other service clubs. He keeps in contact with all new construction in the area, too.

To Condition Bldg.

GREENSBORO, N. C.—M. L. Eakes, Inc. has been awarded the contract for air conditioning and heating equipment to be installed in Blue Bell's Inc.'s \$650,000 general office building on Church St.



New Air-Sweep Gibson ends hot spots and half-way cooling—demonstrates itself

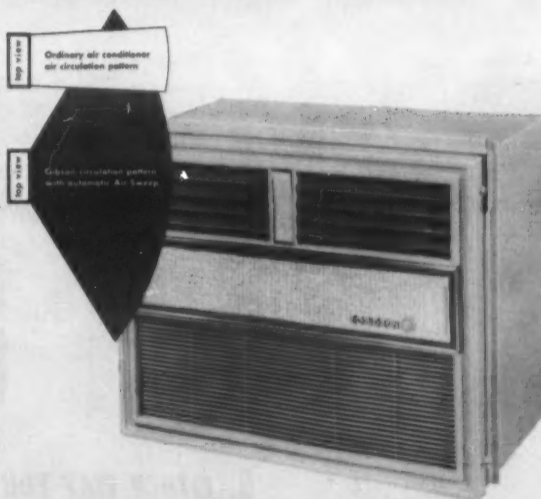
A room cooled by the new Gibson Air-Sweep is cool everywhere. Every 5 seconds, the power-driven Air-Sweep louvers silently sweep cool, clean air into every corner. There are no hot spots, there are no drafts, there is no half-way cooling. A simple ingenious display that attaches to the front of the unit is kept in constant side-to-side motion, dramatically demonstrates the wall-to-wall circulation pattern of the Air-Sweep Gibson. Call your Gibson distributor and ask him for details on Gibson's special Get-Going package, and all these highly salable cooling and heating units:

Trimline Deluxe Series—3 thin and low compact models—no unsightly overhang. Three 1 H.P. models, all attractive and attractively-priced.

Trimline Custom Series—Convenient flush mounting, can be installed through wall. Pushbutton controls. Five models, 1 to 2 H.P. All twin cylinder compressors for maximum capacity.

Heat Pump Models—Four reverse cycle, manual operation, one automatic reverse cycle. 1, 1½ and 2 H.P. With and without Air-Sweep.

New Dehumidifiers—Remove 3 to 4 gallons of water a day from air. Smartly-styled, mounted on nylon gliders. Two models, one with automatic overflow cutoff.



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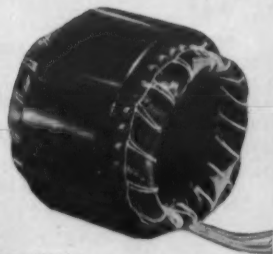
1928 - cast-aluminum rotor

1938 - Formex* insulated wire

1946 - welded stator core

1958

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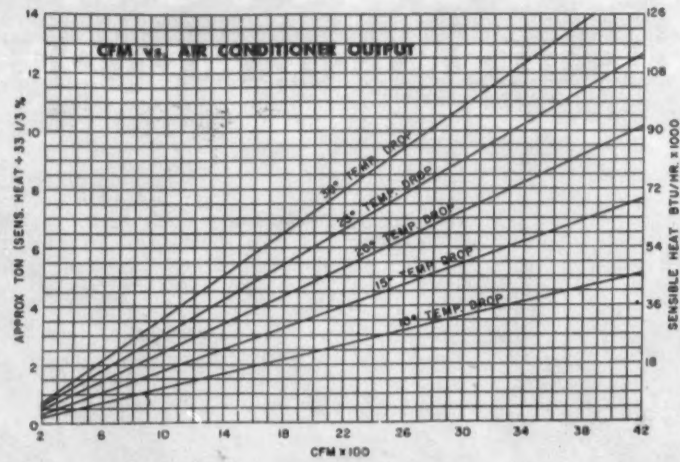
Charts 'Quick Answer' To Needed Air Conditioning Blower C.F.M. for Specified Tonnage, Temperature Drop

DAYTON—Selecting the right size blower for air conditioning is simplified by using a new chart, according to Lau Blower Co.

While other factors are necessary for the final determination of the exact type, the new chart provides a quick answer to the required c.f.m. for a specified tonnage and temperature drop, it was stated.

Tonnages range from zero to 14 while five temperature drops are part of the calculations. These are 10, 15, 20, 25, and 30° F. Sensible heat range is marked from zero to 126,000 B.t.u.h.

Engineers of Lau Blower prepared the new chart for air conditioning manufacturers and field engineers. William Went-



SELECTION CHART for air conditioning blower size has been devised by Lau Blower Co.

ling, the company's chief engineer, points out that the chart is only a basic starting point for the final selection of a blower.

"Other factors as discharge angle, sidewall clearance, pressure drop in the air conditioner, type of motor, and basic design of the complete unit must be considered before the proper blower can be selected. Calculation of the c.f.m. is a first, but important step, when designing an air conditioner or installing a new blower in the field."

To use the chart, "select the tonnage from the left hand side," it was explained. "Follow this across to the required temperature drop then down to the indicated c.f.m. figure. As an example, an 8-ton unit requiring a 30° drop would require a blower delivering 2,200 c.f.m."

"The chart can also be used to convert tonnage to sensible heat figures or heat to tons."

NWAHACA Publishes Central Cooling, Heating Manuals

CLEVELAND — Publication of two new editions in its extensive line of design and installation manuals was announced by the National Warm Air Heating & Air Conditioning Association.

These manuals are the "Application Guide for Residential Central Air Conditioning Systems" (Manual 8), and "Code and Manual for the Design and Installation of Warm Air Winter and Year-Round Air Conditioning Systems" (Manual 9).

"The revised edition of Manual 8 has been completely reworked from cover to cover, with new copy, format, and illustrations, into a basic 'plain talk' reference publication on all facets of warm air heating and air conditioning," the announcement said.

'WHAT IS GOOD SYSTEM'

"It points out what constitutes a good system and describes fully the basic requirements for a quality installation as well as the optional deluxe features which can be added to it."

In a special chapter, titled "Comfort Considerations," those elements which affect human comfort are thoroughly discussed and suggestions offered for their control.

An entirely new addition to this revised edition of Manual 8 is 14 pages treating on summer cooling, and the units and design necessary for producing satisfactory hot weather comfort. Vibration and sound transmission problems are thoroughly covered and a large number of remedial suggestions are described in detail, it was pointed out.

EXPANDS HEATING CAPACITY TABLES

The new Manual 9, (now in its sixth edition) contains expanded heating capacity tables and suggested bonnet pressures, and divides the listings into more even and closer increments, to give much greater accuracy in system planning.

"Although the perimeter heating system was originally developed for basementless buildings, research sponsored by the association at Research Residence No. 2 at the University of Illinois has proved it to be an excellent system for buildings with basements, also."

"To provide information for the application of this system, tables covering floor, wall, and baseboard diffusers have been added. Pressure drop data for smaller sizes of ducts is now included to provide this needed information for residential system design. In Section II, zone control and duct insulation data are given."

All association members automatically receive copies of these revised manuals. Manual 8 is offered for sale to non-members of the association at \$1.50 per copy, and Manual 9 for \$1.25. Copies may be obtained by writing to the National Warm Air Heating & Air Conditioning Association, 640 Engineers Bldg., Cleveland 14.

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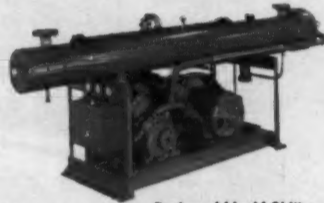
National advertising beamed at virtually every prospect category helps pre-sell Curtis equipment for you. CURTIS provides sales and promotional aids to make your selling job easier.

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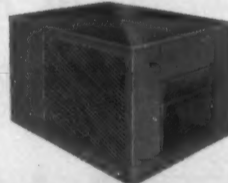
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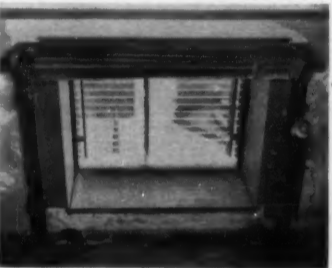
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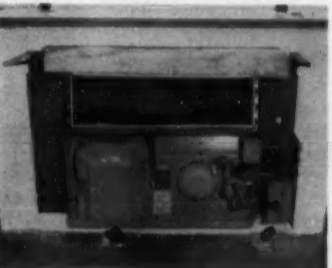
Through-the-Wall Units Air Condition Hospital Year-Round by Using Existing Steam Heat System



First step in making the installation of the Webster Newport "through-the-wall" units in St. Joseph's hospital in Wichita was to install the wall sleeves and outside louvers. Just barely visible at bottom of the picture are the piping connections which tied the Newport units into the existing steam heating system.



This picture shows how steam heating coil, piping, and accessories were installed.



Here, Webster Newport chassis, complete with factory installed wiring, has been installed in the sleeve. Heating part of the installation is yet to be made.



Completed installation shows how neatly styled modern looking cabinet fits neatly into the room, and provides year-round air conditioning for the patients at St. Joseph's hospital.

WICHITA, Kan. — Complete year-round air conditioning has been provided for St. Joseph's hospital here through the use of Webster "Newport" through-the-wall units, in an installation that points up the adaptability of this type of unit with an existing heating system.

Had Window-Type Room Conditioners

The existing hospital building, before the addition was made, was heated by a two-pipe steam differential controlled system utilizing wall hung convector radiation. Such comfort cooling as was provided was through the use of window-type room air conditioners which were hung and removed yearly in various parts of the building.

At the time the addition was being designed the architects, Megullo & Quick of St. Louis,

gave consideration to a central system of year-round air conditioning to handle both the existing building and the new addition, but this idea was discarded because of the cost and other factors.

'Chosen for Design Simplicity'

Webster Newport "through-the-wall" units, made by Warren Webster & Co., were finally selected on the basis of the simplicity of the installation and piping methods required, and because of the neat appearance they would present both inside and outside the building, the architect stated. Low installed cost per ton of cooling capacity and the feature that the existing steam heating sys-

tem could be utilized with minor changes were major factors in the decision to install the "through-the-wall" units.

For the installation, the differential vacuum heating system was changed to a pressure system operating on a 2 to 5 p.s.i.g. One of the things that made this change possible, it was stated, was that the built-in heating thermostat on each Newport provides individual thermostatic room control.

The wall sleeves were laid in the masonry as the new addition was built. In the existing building a wooden template was made so that when placed on the window sill it extended down on the inside and outside walls and the required opening could be easily marked with chalk.

This opening was then scored inside and outside to about 3 in. deep through the use of a high-speed carborundum wheel. An air-operated chisel was then used to remove the brick and mortar.

A light tubular frame scaffold on wheels was used to work outside the building at the various floor levels.

All that was required to complete the installation was to make the necessary steam pipe fittings and to complete the electrical wiring.

Calls Wiring Work Simple

The wiring work was simple in that it only required bringing wiring carrying the proper current to a terminal box located on the unit back plate. All air conditioning and heating wiring including both thermostatic heating and air conditioning control is factory installed, terminating in a pig tail that is

plugged into the terminal box on the back plate at the time the air conditioning chassis is slid into place.

Ease in maintenance of the individual units was also said to be a factor in the selection of this system for the hospital job. In the event of the malfunctioning of any single unit, a replacement chassis can be inserted in the unit, and thus there will be no need of carrying out long and noisy repair jobs in the hospital area. It is contemplated that several spare units will be carried for this purpose. Filters can also be changed readily.

Operating Costs of Residential Air Conditioning and What This Means to Dealers and Installers. By R. A. Gonzales—25¢ each.

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ASRE Conference Reviews Problems Encountered In Air Conditioning of Multi-Room Buildings

CHICAGO — Statements of two consulting engineers, an architect, and a mechanical contractor who made up a panel discussing central plant air conditioning for multi-room buildings evoked comment and some criticism at the Air Conditioning Conference held during the 44th semi-annual meeting of the American Society of Refrigerating Engineers at the Shoreland hotel here.

Basic approaches to system design and selection of water-chilling equipment were outlined by the consulting engineers; the architect emphasized economic considerations, and the contractor offered some wry comments, chiefly about the engineers who do specifications.

In opening the conference, M.

J. Wilson, pinch-hitting as

chairman for W. L. McGrath, pointed out that while the sales volume of the air conditioning industry is increasing, the potential is enormous and for the most part untapped. Listing such markets as hotels, hospitals, and business buildings, Wilson estimated there is a \$10 billion market in comfort air conditioning.

Gamble Outlines Types of Systems

In the first prepared talk of the conference C. B. Gamble, owner of C. B. Gamble & Associates, listed and briefly described the advantages and disadvantages of each of the several methods used for air conditioning multi-room build-

ings.

Mentioning that window units are sometimes practical, Gamble did not further discuss them since, he said, they do not fall into a design engineer's scope.

Beginning with an unzoned duct system which he described as the best unit "where price is paramount," Gamble offered the following summaries about each of several other approaches.

Zoned self-contained unit: normally not much humidity control; medium filtering; fair for year round use in warm climates.

Floor unit system with fan coil: good cooling in hot weather; falls down on humidity control; fair heating job, but variations in air intake give erratic results.

Perimeter fan coil unit, separate fresh air unit: good control of temperature and humidity; good filtration.

High pressure induction window unit: good for heating and cooling perimeter if there is not a large interior zone.

Multi-zone duct system: with a hot and cold coil and with mixed air, this system provides good year-round conditioning; good filtration and humidity control.

Horizontal double duct system: hot and cold air in a central point; with high and low pressure side, it is possible to do anything at all with the air.

Vertical zoned, under window: with a high and low pressure side, this system provides individual control at each window; humidity and filtration are good, but not as good as in double duct system.

Vertical double duct, under window blower: good filtration

and humidity control; as expensive as the best; good year-round system.

Describing the modern trend toward curtain wall construction, Gamble said, "buildings are designed by architects to make it as hard as possible for the air conditioning people to air condition them."

The design of some modern buildings, he went on, make it impossible to use any vertical ductwork at all.

Discussion from the floor brought out that window units are very successful where economic conditions or certain physical factors warrant their use. One multi-room building requiring 500 tons of refrigeration was handled by window units because there was insufficient water for a water cooled system and there was no room for water savers. Heating coils were added, and the entire system was found to save maintenance costs compared to a central system.

Admitting the practicability of window units under certain restricted conditions, Gamble stated that at best they are only partial answers to the general problem of air conditioning multi-room buildings.

Asked about the use of through-the-wall units, Gamble stated that he would not normally consider their use in a large building.

A counter argument was presented from the floor when H. L. Laube insisted that engineers have an obligation to the occupants of a building as well as to the owner-operators. Stating that the engineer should attempt to design the best possible unit at the lowest possible cost, Laube pointed out that "it costs money to chase a B.t.u. In a central unit each B.t.u. has to be chased 250 to 500 ft.; in a through-the-wall-unit, the B.t.u. need only be chased about 12 in."

Air Conditioning Can Pay for Itself

"In air conditioning you get what you pay for," declared Robert Salinger, of Naess and Murphy, Chicago architects, who next discussed economic aspects of air conditioning at the conference.

Tracing the growth of large systems from the Twenties when theater operators began installing air conditioning to maintain their summer business, Salinger reminded the conference that the original thinking—"it's not whether they can afford air conditioning but whether they can afford not to have it"—is equally valid today.

Air conditioning increases employee efficiency, reduces absenteeism, lowers personnel turnover, and helps in the competition for new employees or new tenants in an office building, Salinger said, and he pointed out that nearly a third of all non-residential structures built or remodeled in 1956 had air conditioning although only 10% had what could be considered complete year-round systems.

"Complete" systems, he emphasized, should control the temperature and humidity in individual occupied spaces during both summer and winter as well as cleaning the air. Latter re-

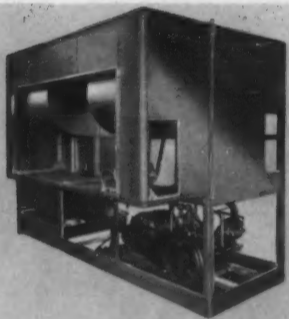
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Unusual air-conditioning needs? . . .

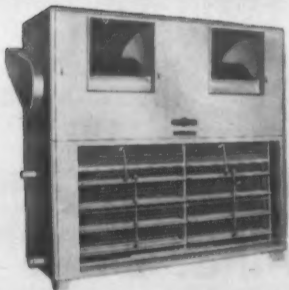
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Cooling Multi-Room Buildings--

(Continued from preceding page) quirement and solution, however, has to be individually analyzed for each job, Salinger said.

Air Distribution Must Cope with Individual Space Requirements

Air distribution, a vital function of the system, must cope with the individual space requirements, he added.

"Air conditioning should be considered as a part of the overall building cost," Salinger told the group, "and must be broken down as to installation, owning, and operating costs. In discussing these costs, after total figures have been determined, it's best to break the costs down further into smaller, more easily understood units such as cost per square foot."

Salinger then went on to cite data gathered by Minneapolis-Honeywell Regulator Co. and Carrier Corp. which relate air conditioning costs to other costs in existing and new office buildings.

(A detailed analysis of these figures was published in the Nov. 18, 1957, issue of AIR CONDITIONING & REFRIGERATION NEWS, page 34, as part of an article by John E. Haines, Honeywell vice president.)

These figures show that in new office buildings occupied by the owner, an increase in employee efficiency of a mere .85% will pay for complete year-round conditioning; in owner-occupied existing office buildings only a 1% boost in employee efficiency will pay for air conditioning; in tenant-occupied office buildings only 1.4% increased working efficiency is needed.

Contractor Tells Woes of Big Jobs

Woes of the mechanical contractor who has to bid on and install air conditioning in multi-room structures were voiced with somewhat an air of resignation by L. L. Pierce, manager of construction for the Wm. H. Singleton Co., Inc. of Washington, D. C., who commented, "we feel we're in a transitional stage in this industry."

Pierce attributes "40% of our problems to ourselves, 40% to engineers, and 20% to manufacturers," he said.

One of the contractor's first problems is "to decide whether to do quality work or shoddy work," Pierce commented, indicating also that this decision has become increasingly important because "now mechanical works runs 20% to 30% of the total building cost."

The latter has a bearing, too, on the contractor's cost of preparing bids on a job. And in this connection Pierce admitted that until recently "to get enough work we had to bid on so many jobs that our estimates became sloppy."

"So now we have a committee of four that studies jobs before we bid them. This committee takes one day to decide whether we should even bid," he said.

Once the decision to bid is made, other problems start, Pierce implied.

"The plans and specifications we're getting today seem to be getting worse all the time," he

asserted. "We find a tendency for engineers to be too loose on equipment specifications and too tight on contractor's choices. We find the drawings supplied to contractors for bids becoming more and more schematic. In fact," Pierce commented, "we've found it better to depend on percentages from previous jobs, which can be more accurate than working up bids from some of these drawings."

Pierce also charged engineers with responsibility for creating problems by not allowing enough space for installation and maintenance ("we've had noticeably less trouble with modular design"); with poor coordination between engineer and architect; with ignoring of local codes; "overdoing" test procedures, and "asking contractors to take care of their 'little mistakes.'"

"Often specifications on sheet metal don't take advantage of the latest practices."

"Contract warranties are often too all-inclusive and/or vague," he also complained.

Manufacturers of equipment were taken to task by Pierce, who decried "unreliable ratings, inadequate sound ratings (noise is a big problem on every job), inadequate deliveries, and inadequate warranties (we have to pay freight and installation charges)."

But there are problems that have to be solved by the contractors themselves, Pierce implied, including those stemming from the fact that "jobs have become so complicated that the average superintendent who came up the ranks from the trade can't really cope with them."

"Now we have to have an engineer working with the superintendent on the job," he said.

Solution to this problem as

worked out by Pierce's firm is to employ student engineers on a combined work-school problem, he explained, a project which seems to have definite possibilities, he indicated.

"We've also been forced to develop detailed coordinated drawings," Pierce said. "Coordinated drawings may seem more expensive, but they do save in the final installation costs."

"We put the lighting runs, water lines, heating, air conditioning, etc., all on the same tracings," he explained.

Besides such obvious advantages as checking clearances and scheduling installations, these coordinated drawings usually point the way to pre-fabricating quite a bit of the work.

"Here you can get the costs down," Pierce declared.

Comparison of Makes Draws Objections

In the final talk of the conference, J. L. Wolf, staff engi-

neer, C. S. Leopold, compared the different types of water-chilling refrigeration plants available for air conditioning large buildings.

During his discussion, Wolf actually named the various brands of plants, listing his opinion on their advantages and shortcomings. His frank discussion brought forth some objection from the floor (not from a manufacturer)—the objection being that the manufacturers were in no position to defend their units against Wolf's criticisms.

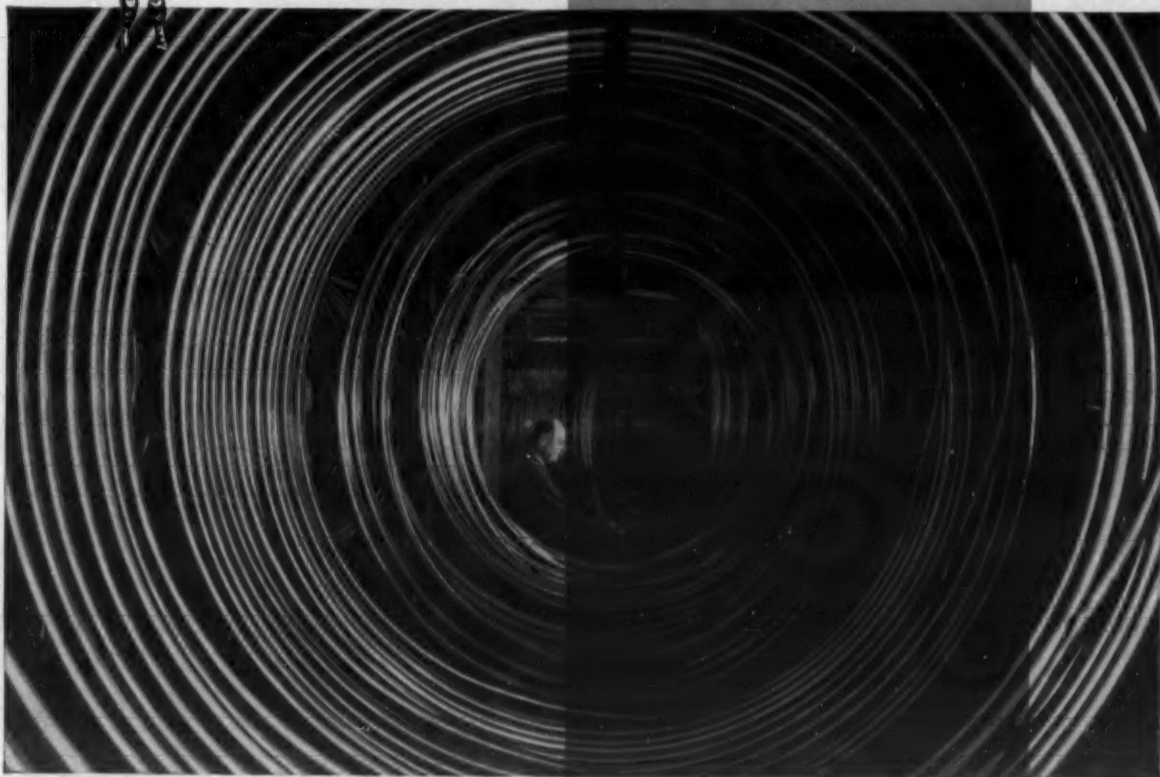
Wolf countered by stating that the ASRE is a technical society in which open and honest discussion is a necessity.

Wolf's discussion of refrigerating plants was limited to large units. He described "large" as units from 100 to 125 tons and up. He offered a checklist of items to consider in designing such large installations. Among

(Concluded on next page)



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GOING AROUND IN CIRCLES ABOUT COPPER TUBE?

... then why not join the growing list of America's leading manufacturers of air conditioning and refrigeration units and coils ... who specify VIKING when they need uniformly perfect thinwall copper tubes?

In one of the most modern plants in the industry, specifically designed and constructed for the fabrication of thinwall copper tube, VIKING has pioneered new automatic production and testing methods ... assuring superior quality, accuracy, uniformity and finish in VIKING Copper Tube—superiority that is being constantly translated by fabricators into lower costs and more efficient operation.



VIKING

COPPER TUBE CO.

CLEVELAND 19, OHIO

PRECISION DRAWN SEAMLESS COPPER TUBE

EXTRA WORKABILITY

The proper kind of temper is vital in tube used for refrigeration and air conditioning purposes. VIKING Copper Tube has been produced with the best available annealing and tempering equipment, thus assuring perfect fabricating.

ABSOLUTE, UNVARYING STRAIGHTNESS

A battery of straightening machines keeps VIKING Copper Tube absolutely, unvaryingly straight. In addition, these machines precisely temper the tube, imparting to it the correct surface hardness ... assuring ease in fabrication resulting in substantial savings in time and labor.

ELECTRONIC QUALITY CONTROL

An electronic "Scan" detects the minutest flaw or imperfection in the walls of VIKING tubes ... automatically discarding defective tubes. Trouble-free fabrication is virtually guaranteed—operational failures almost completely eliminated.

Multi-Room Bldgs. - No Home In St. Louis Is Complete Unless It Has Cooling, Believes Builder with Record of 600

(Concluded from preceding page)
them were the following:

Where continuous operation is a necessity, consider two machines rather than one—each operating at half capacity. In the tropics, consider three machines.

Except in such installations as IBM or other electronic control rooms, standby equipment is not necessary for comfort air conditioning.

CONSIDER LOCATION

Consider location. A penthouse or remote installation may actually be more advantageous than the customary basement site.

Promote water treatment on the original installation. There is no excuse for designing a beautiful system then having to tell the owner in about three months or so that he really should have water treatment if he wants the system to operate properly.

Provide good thermometers and gauges to show trouble immediately if water-side fouling should occur.

Wolf suggested that manufacturers should provide for annual replacement of purging units, since they cause service problems out of proportion to their cost when left in the system indefinitely.

Never charge without evacuating to a 1/4-in. vacuum and holding it.

Consider eventual planned expansion.

CONSIDER HEAT PUMP

Consider a heat pump when winter heating is necessary.

Select evaporator temperatures high enough to prevent freezing. Cut-outs do not really work, Wolf stated. Do not skimp on evaporator surface.

In closing, Wolf pointed out that open type and hermetic units have their place. Absorption units offer the great advantage of smaller size and less foundation weight requirements.

He pointed out that where space is a problem, a Refrigerant-12 unit will take less room than a Refrigerant-22 unit. However, the system will be noisier, and consideration must be given this point.

Trane Continues 8 Prep Scholarships

LA CROSSE, Wis.—For the second consecutive year The Trane Co. is offering eight two-year pre-engineering scholarships to high school senior boys in this area.

Trane is conducting the program in cooperation with La Crosse State college. Upon completion of the course, students may be offered positions at Trane as engineering technicians.

Those who wish to continue their schooling toward an engineering degree may do so and will receive credit for completed subjects.

The engineering technician scholarship program is in addition to Trane's established scholarship and fellowship grants to more than a dozen top colleges and universities in the U. S. annually.

By C. Dale Mericle

ST. LOUIS — "The weather here requires air conditioning, and any home without it is incomplete," believes a leading St. Louis speculative builder.

So in the past two years this builder has constructed 600 completely air conditioned homes in the Paddock Hills subdivision of suburban Florissant, Mo., and has 300 more air conditioners on order for 1958 with hopes that sales this year may hit 400.

Air conditioning is not optional equipment in Paddock Hills. It comes with the house, which is offered in eight different models ranging from \$17,490 to \$20,690 by Mayer-Raisher-Mayer Construction Co., veteran St. Louis builder.

"We try to offer a home so

complete that people won't have to buy anything else," explains Jerome Mayer of the building firm. "We don't offer extras. In fact," he adds, "we won't build them in even if the customer asks for them."

There shouldn't be much desire for extras because in addition to air conditioning, the homes are built with a completely fitted kitchen including built-in oven, dishwasher, disposer, exhaust fan, and cabinets. The rest of the house is similarly complete.

Year-round air conditioning provided in these homes consists of a Coleman 100,000 B.t.u. gas furnace and a Coleman 3-ton "Polar Pak" air-cooled unit.

Latter unit, consisting of twin

compressors, offers considerable flexibility in matching loads, which can vary somewhat because the homes are of different sizes and range from two to four bedrooms, points out J. M. Hughes of Hollander & Co., Inc., St. Louis distributor for Coleman.

The twin-unit design also keeps operating costs low, according to Hughes, who has been largely instrumental in promoting the use of this air conditioner by Mayer-Raisher-Mayer.

Total cooling costs for the season, which covers four to five months here, have been estimated at from \$34 to \$58 by Union Electric Co., local utility, said Hughes, who confesses he was somewhat surprised that



COOLING unit (upper right), which is tied in with 100,000 B.t.u. gas furnace, is installed through the basement wall at one third the cost of remote systems, thanks to careful design and planning.

the costs were quite that low. Although the price of this particular make and model is not the cheapest on the market, (Concluded on next page)

Tecumseh

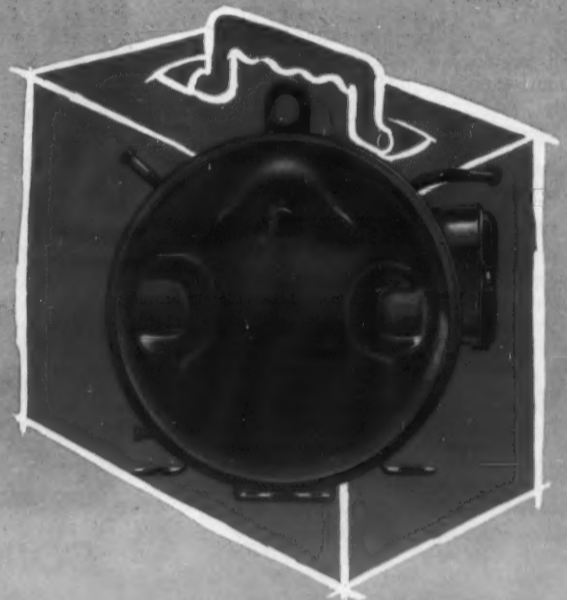
engineering VISION

for 1958

Keeping ahead of the rapid steps being made in the room air conditioner field, Tecumseh now offers 17 new hermetic compressors designed to accommodate every application problem. Regardless of whether the demand has been for more compact units, higher capacities, greater dependability, lower costs, or plug-in convenience . . . Tecumseh ENGINEERING VISION has supplied the answer. By working closely with our customers we have been able to anticipate these development requirements and immediately include them in our compressor production. The responsiveness of these engineering and mass production facilities permits Tecumseh alone to offer the industry the most complete up-to-date line for this application.

Tecumseh has provided the first practical compressor solution to portable air conditioning in the new 1/2 HP, AR26. This high speed Pancake model is the most compact, lightweight compressor on the market. For "plug-in" application, Tecumseh offers three compressor models for 115 volt-7 1/2 amp units. One of these—the Model B8513—represents the first twin cylinder 7 1/2 amp compressor in the industry. We have also expanded the 115 volt—12 amp models to include both single and twin cylinder, high capacity compressors. PSC motors have been incorporated into most of these compressors. This has eliminated the necessity for additional electrical components, and provided a savings in the ultimate cost of the unit.

The Tecumseh line of room air conditioning compressors allows a customer to match a compressor to his unit with extreme accuracy. Each compressor has been rigorously field-tested and, in many cases, already has millions of counterparts in actual operation. Greater capacity in a smaller physical size, higher BTU per watt, operational economy as well as low initial cost, are features built into every Tecumseh air conditioning compressor. Additional new models are constantly in development, guaranteeing Tecumseh customers the best compressors first . . . an advantage we are determined to continue to provide.



1/2 HP PANCAKE

To meet the need for a suitable compressor for portable air conditioners, Tecumseh offers the Model AR26. Utilizing the popular pancake design, this compressor requires less room, weighs only 31 pounds, yet delivers 5150 BTU/hr.



The Leader Serving Leaders In The Air Conditioning And
TECUMSEH PRODUCTS
EXPORT DEPT. — P.O. Box 2280, 24530 Michigan Ave.,

(Concluded from preceding page)

operating economy and low cost of installation have been strong selling points, Hughes says.

Actual sale and installation is handled by Droste Heating & Sheet Metal Co., but the layout and design of the year-round air conditioning system has been directed closely by the distributor.

A perimeter system with high inside wall return is employed in the Paddock Hills homes, all of which are single-story, full basement design. Furnace is located in the basement near an outside wall. The air conditioning unit mounts through the foundation near the furnace.

Cost of actually installing the unit has been pared to one-third that required for a remote type system, Hughes claims.

When the concrete is poured, mounting brackets for the air conditioner are imbedded in the basement walls. These serve as



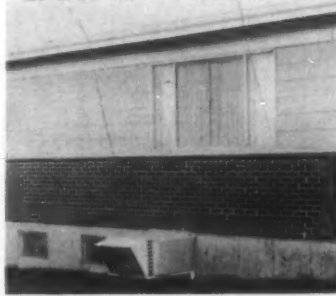
OPERATION of two-stage summer-winter thermostat is checked by Jerome Mayer (left) of the building firm and J. M. Hughes of Hollander & Co., St. Louis distributor for Coleman.

the street putting the units in place one after another, Hughes explains. The necessary sheet metal and electrical connections are then made in short order.

A heating-cooling thermostat with two-stage control on the cooling side for handling the twin compressors is provided for this system. There's a manual switch on the thermostat to change from heating to cooling. A manually operated damper at the furnace must also be changed. Purpose of the damper is to prevent condensation forming on the furnace heat exchanger during cooling system operation.

Performance of these air conditioning systems is checked frequently by the distributor, especially during peak load periods to determine both dry and wet-bulb conditions and, of course, customer satisfaction.

"Biggest problem, though, is educating the homeowner to use



EACH of the 600 homes in the Paddock Hills subdivision is provided with a 3-ton air-cooled Coleman air conditioner by the speculative builder who believes that no home in the St. Louis area is complete without air conditioning.

the cooling system properly," comments Hughes. "Some seem reluctant to let it run during the day, for example, and then complain in late afternoon that 'it's still not cool and we've had it turned on for an hour.'"

To help offset this problem Hughes has prepared a two-

page section on the air conditioning system for the "owner's manual" which the builder provides for every purchaser.

Hughes can speak authoritatively on such matters, for he has first-hand knowledge of performance of the year-round system. He lives in the subdivision himself.

Utility Names

National Marketing Management Team

LOS ANGELES — Appointment of a national marketing management team for Gaffers & Sattler products was announced here by P. L. (Pete) Chabre, newly-elected vice president for marketing and sales of Utility Appliance Corp. and Mission Appliance Corp.

Chabre, in a series of promotions, named the following as national marketing managers:

Charles F. Cushing, heating and air conditioning; Darryl Giles, water heaters; Thomas M. Northcote, air coolers; and Clifford Mohr, ranges. C. A. (Joe) Miller was appointed supervisor of sales operations.

The promotions give added responsibilities to Cushing and Northcote, who formerly supervised sales of their divisions for Utility and to Giles who was with Mission. Miller's former duties were also solely with Mission. Mohr was upped from assistant sales manager of the Gaffers & Sattler range division.

Carrier Div. Open House Celebrates Business Rise

HOUSTON, Texas—A nearly threefold increase in annual business in two years by the Machinery & Systems Div. of Carrier Corp. was celebrated recently at a customer open house in the division's new district office building at 2727 Wesleyan and West Alabama here.

Acting as hosts with Gordon V. Bond, district manager, were Hermann C. Hoffmann, general sales manager, from executive headquarters, Syracuse, N. Y.; Oscar H. Mehl, southwestern regional manager; and Harry M. Shedd, senior industrial compression specialist, both of Dallas; and Richard A. Thompson, in charge of the industrial compressor department in Houston.

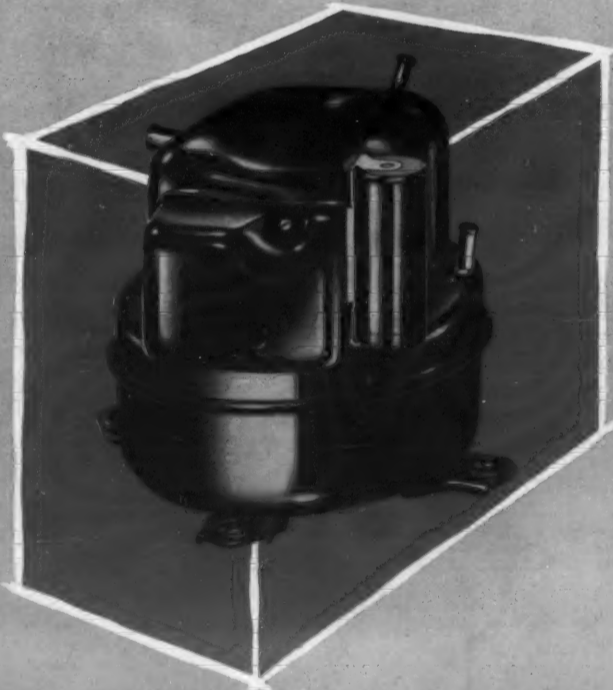
Plans for the completely air conditioned structure were stimulated by increasing demand for heavy-duty compression equipment, according to Bond.

The new facility is comprised of two rectangular structures separated by a drive-through carport leading to an off-street parking area for employees and visitors. Offices, conference rooms, and drafting areas have been scientifically planned based on a five-year study by Carrier design engineers, it was noted.

develops new application flexibility ROOM AIR CONDITIONER COMPRESSORS

¾ HP and 1 HP MODELS

These new single cylinder, internally spring mounted compressors range in capacity from 6500 BTU to 11,700 BTU. Included are two 7½ amp models, a model for 12 amp, 115 volt operation, and others for 115, 208, or 230 volt units. All of these compressors use F-22, are reduced in size and have high power factor motors.



1, 1½, and 2 HP TWINS

These ten models provide a choice of capacities from 8400 BTU to 23,500 BTU. All are designed for F-22, incorporate high power factor motors, and are externally spring mounted. One 7½ amp-115 volt model and one 12 amp-115 volt compressor are offered in this series. Two models are special 230 volt, 50 cycle compressors, and the balance offer a choice for either 208 or 230 volt, 60 cycle operation.

Refrigeration Industries

COMPANY

West Dearborn, Michigan

MARION, OHIO

TECUMSEH, MICHIGAN

Operating Costs of Residential Air Conditioning and What This Means to Dealers and Installers. By R. A. Gonzales—25¢ each.

Get your copy

Mail this ad with your name and address to: Air Conditioning & Refrigeration News, 450 W. Fort St., Detroit 26, Mich.

Selling Slants

'Personal Suggestions' To Heating Clients Promotes Dealer's Cooling

MISHAWAKA, Ind.—Walter Whitt, Jr., who has been in the heating business here for years and moved into the residential air conditioning field only two years ago, finds that personal "suggestion" to his heating customers is the most fruitful way to promote cooling business.

Whitt, who is a partner with his mother in Whitt Heating Co., has installed between 25 and 30 residential "add-on" units in his brief cooling career. He handles the "Dowagiac" lines of heating and cooling and "Carrier" cooling equipment, which he installs in both residential and commercial applications.

Whitt has advertised residen-

tial air conditioning in newspapers and on billboards but without measurable success.

"I believe that such advertising helps," he commented. "It informs people that you are in the cooling business. But I can't trace any particular sale to such advertising."

Whitt explained that most of his cooling business came when he was called in to replace old heating systems. Then, people were open to suggestion to add cooling, too.

He pointed out that they will agree to install a heating system sized to permit air conditioning. Then, after mulling over the desirability of air conditioning for awhile, they will

agree to have a cooling unit installed.

Almost all of the installations made so far have been into existing homes of \$20,000 or more in value. A few might have been smaller, in the \$18,000 class, he noted.

HIC Guide 'Organizes' National Promotions

NEW YORK CITY — Don Moore, executive director of the Home Improvement Council, has announced the availability of the council's "Organizing Guide."

This publication, detailing opportunities for members to capitalize on the national promotion through organized local activity, gives step-by-step procedures for setting up local chapters of HIC.

Copies of the guide can be obtained from HIC, 2 E. 54th St., New York 22, N. Y.



SALES SUCCESS for residential air conditioning in better class Los Angeles homes is claimed by engineers of Utility Appliance Corp. on a "four can work cheaper than one" concept. Four 3-ton Gaffers & Sattler units were installed in a new Beverly Hills home to carry the load normally assigned to one 12-ton residential air conditioner. By cooling only one "in use" home area at a time the new multiple system is said to cut operating costs.

Zones 4 Units To Replace 12-Ton Unit, Air Condition 'In Use' Areas of Home

BEVERLY HILLS, Calif.—Four can work cheaper than one when it comes to residential air conditioning, if the design is for multiple unit zoning, according to Utility Appliance Corp.

A demonstration of such zon-

ing was given in a new Beverly Hills mansion of a prominent Los Angeles businessman by engineers of Utility Appliance and a mechanical engineer consultant, Samuel L. Kaye.

In charge of the project for Utility was Leo Hungerford, national director of sales engineering.

FOUR 3-TON UNITS

Four 3-ton air conditioning units were installed in the home instead of a single 12-ton unit required by the local design studies conducted by Kaye and Hungerford.

Hungerford, past president of the Southern California Chapter, American Society of Heating & Air-Conditioning Engineers, said the multiple unit zone system has been proved to possess several distinct advantages over the large single unit system.

'SAVES WEAR, TEAR'

"Multiple units save wear and tear on the equipment because each unit is in use only when the zone, like the play or sleeping area, is occupied," he said.

"They save continuous stop and start attrition of a big unit, trying to keep a whole house cool.

"They save money because the different zones are air conditioned only when needed.

'4 UNITS INSURE EMERGENCY SERVICE'

"They insure emergency service at all times by making it possible for one 3-ton unit to take over zone conditioning when another unit goes out of order, where failure of a single large unit would eliminate all air conditioning in the house.

"And, last, we even found the multiple unit system cheaper to install."

Hungerford said multiple unit zone installations are now being planned by Consultant Kaye in business and commercial buildings, including a medical building in San Fernando Valley.

the meaning of custom-made quality



Steel case die with sintered carbide nib

Plug or mandril with sintered carbide tip



Here's why United tube is always well within commercial tolerances

You want seamless tube exactly in the size you specify ... every order, every piece. At United, these "specs" are assured with the finest carbide dies in the industry. Diamond bored to exact size in United's modern in-plant tool room, constant accuracy is guaranteed by the long life of the sintered carbide nib and plug. In addition each set is carefully checked and refinished after every job lot.

Standard size dies are always in stock and special sizes are readily available by quickly making a die to specifications. This is but one example of United custom-made quality. For further information or for fast shipment of your order write:

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Specify **UNITED** for aluminum, brass, copper tube and wire... brazing alloys

BETTER THAN EVER
Valve Plates and Seals
for Commercial Refrigeration Compressors

Long life, high speed, metal-to-metal seals

The only valve plate with replaceable seats

For complete details see your wholesaler or write for Bulletin Nos. 806 and 806a OEM inquiries invited

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Survey Tries To Uncover Consumer Attitudes on Home Heating Systems

GARWOOD, N. J.—Motivation Research is being used by Thatcher Furnace Co. to uncover consumer attitudes toward home heating systems, a Thatcher sales department official announced.

The survey, which is employing psychological techniques, is being conducted by the market research firm of Harold Bell & Associates of New York and is

under the direct supervision of Kenneth Axel, staff member of the Institute of Applied Psychology.

Results of the study and sales suggestions based on it will be turned over to Thatcher dealers, the spokesman said. The intent of the MR project, he said, is not to amass specific information but to furnish guides for present sales activities and possible future research.

A representative of Thatcher's advertising department said that the firm was using MR because it wants to use the latest and most scientific marketing methods possible to help dealers sell home heating systems. He said that the company had long felt the need for giving dealers more information on consumer buying habits.

Selling Slants

Vacuum Cleaner for Condensers Aids New Firm's Drive For More Commercial Air Conditioning Business

TOLEDO—"We are going after applied air conditioning business among Toledo industries by selling service and performance," Robert Greenwald, president of the recently organized Allied Industrial Service Corp., declared.

Holding a sheaf of invoices several inches thick, Greenwald said, "We have only been in business four months, but there is a measure of what we have done in that time."

Last fall, Greenwald, who had been general manager of the air conditioning division of the Lumm Corp., local sheet metal contractor, joined forces with Robert N. Christy, owner of Arctic Refrigeration Co., prima-

rily a service firm, to form Allied Industrial. Christy is service manager.

What does Greenwald mean by selling service and performance?

"For instance," he explained, "we are starting a filter cleaning service. We don't expect to make a lot of money cleaning filters, but it will help take care of the overhead and give us an 'in' for sales."

"At the same time, it performs a service for the customer. It impresses him with the idea that we are here to serve him."

"Another thing we are doing is to take a high-powered vacuum cleaner with us on service calls. If the customer has

dirty condenser coils, we don't suggest he get someone to clean them. We point out we have the equipment right there and will do it for him. We charge for the service, of course.

"This not only improves performance of the customer's equipment but adds to the impression that Allied Industrial is prepared to render all services he needs."

Carrying through the same theme, Greenwald presented each of his accounts with a stapler at Christmas time. Bearing Allied Industrial's name and telephone number on the back, it acts as a frequent reminder when performing a needed service for the customer.

Bryant Promotes Day, Gray to Vice Pres.

INDIANAPOLIS—Promotion of William M. Day and Gordon N. Gray to vice president of Bryant Mfg. Co., a division of Carrier Corp., has been announced by Samuel F.



W. M. Day

Shawhan, president.

Day becomes vice president in charge of engineering and Gray assumes executive administration of all manufacturing. Both had been with Bryant as managers of their respective areas of operation.

A graduate of Johns Hopkins university with a degree in electrical engineering, Day joined Bryant as director of engineering in October, 1956. Gray, a graduate of Case Institute of Technology with a degree in mechanical engineering, has been a member of the Bryant organization since October, 1933.

Round-the-Clock Service Firm Moves to New Bldg.

CHICAGO—Murphy & Miller, Inc. has moved into its new 50,000-sq. ft. building here and announces it offers round-the-clock air conditioning, heating, and refrigeration service seven days a week.

The firm engineers, installs, and services any commercial, industrial, and residential air conditioning job. It will do the same for any commercial refrigeration or environmental test equipment job and offer contracts for complete uninterrupted maintenance.

Tracey Leaves Emerson Radio

NEW YORK CITY—E. A. Tracey has resigned as vice president-sales for Emerson Radio & Phonograph Corp.

Formerly vice president-sales for Mitchell Mfg. Co., a subsidiary of Cory Corp., Tracey joined Emerson last June. At one time he held a similar post with Zenith Radio Corp.

Benjamin Abrams, Emerson president, said the firm is currently being reorganized.

Reprints Available
Hermetic Compressor Design, Development, by Henri Soumerai. Only 40¢ each.
Mail this ad with name and address to: Air Conditioning & Refrigeration News, 450 W. Fort St., Detroit 26, Mich.

Here it is! one of the new Mueller Brass Co. refrigeration products that are out of this world!

the new

Safety-master

PRESSURE RELIEF VALVE

safety engineered for high volume discharge



New Mueller Brass Co. pressure relief valves provide positive action and high volume discharge. Safety-Masters are built to meet the A.S.A.B. 9 safety code, comply with A.S.M.E. code, and are certified by the National Board. Safety-Masters are available in pressure settings from 150 lbs. to 450 lbs. Settings are factory-accurate and are stamped on the body of the valve. All valves are safety sealed to guarantee maintenance of setting accuracy. In operation, the unique instant action of the valve seat disc relieves pressure without chatter or vibration, and provides complete and positive reseating. Safety-Masters are available in 12 different end connections in straight-through or angle type, and are all made from premium quality brass for superior strength. Every Mueller Brass Co. pressure relief valve is packed in strong metal edge cartons for complete protection until installation. Be sure to specify Safety-Master . . . another new Mueller Brass Co. product that is "out of this world" in design, engineering, and performance.

WRITE TODAY for new product data sheet No. 11

MUELLER BRASS CO. PORT HURON 13, MICHIGAN

Working with the Builder (Selling Slants)

1. Help Sell Cooling In Original Contract
2. Try To Have Everything the Builder Needs
3. Invite Builders to Equipment, Service Show

By George M. Hanning

KALAMAZOO, Mich.—During the last quarter of 1957, Schippers Service Appliance Co. here sold 82 furnaces and, with them, 17 residential air conditioning units.

Is this good?

Consider these factors:

Schippers, a Westinghouse dealer, entered the heating business only last August when Westinghouse brought out its own furnace line.

The air conditioning units were sold during cold weather months in an area where the Federal Housing Administration has been giving cooling the cold shoulder and where indifferent builders say that no one ever asks them about air conditioning.

How did Schippers do it?

Refutes Argument Air Conditioning Hasn't Arrived Yet

The answer refutes a stock argument of builders who believe that air conditioning is the "coming thing" but hasn't arrived yet. Their argument: Home buyers are too burdened with initial costs to be interested in adding air conditioning immediately. Maybe in a few years, perhaps, but not now.

"When a home buyer orders a furnace, we start right then selling him on air conditioning—sometimes even before the furnace is installed," declared "Pete" Schippers, president.

"Our most convincing argument is that by buying now he can get the air conditioning included in the original home contract, making it easier for him to pay for it."

Schippers pointed out that his company does not wait for the builder to sell air conditioning to his customer.

'Turn Him over to Us'

"If he can't make the sale, we urge him to turn the prospect over to us," Schippers said. "We have two men who make their living selling air conditioning. They get only a share in the profit—no draw or commission."

"It takes good men to work on that basis—but a good man prefers it," he added.

These tactics have worked well so far, he pointed out.

Because of their success in selling more than 100 furnaces in their first six months in the heating business, the Schippers, father "Pete" and son Henry, Jr., are going after builder business even stronger this year.

The firm has been in the appliance and air conditioning business for years. But until recently it has not made a direct pitch to builders.

The Schippers feel that they are now in an excellent position to capture a good share of the builder market.

"We can offer the builder almost everything in home equipment except the plumbing," Schippers noted.

The company sells Westing-

house and RCA Whirlpool electric appliances, including complete kitchen, Westinghouse heating and cooling equipment, and, a late addition, propane gas. It also sells gas appliances.

To kick off its campaign for more builder business, Schippers invited all the home builders in the Kalamazoo area to a buffet supper in its store in mid-January.

The event was tied in with the local Home Builders Association. That group was invited to hold its regular monthly meeting in the store after supper.

"We sent out invitations to

175 builders, most of them within a radius of 10 miles of Kalamazoo, and more than 75 showed up," Schippers said.

"The home builders association was delighted, too. This was nearly double their normal turn-out."

Invitational Letter

A simple invitational letter was sent out five days before the event. Builders were asked to return an enclosed post card if they planned to attend.

Most did so, Schippers said, though some telephoned in their acceptance.

(Concluded on next page)



LEFT—HOME BUILDERS in Kalamazoo area flocked to Schippers Service Appliance Co. showroom to see what Schippers had to offer. Here Bill Ehinger, representing Ductless Hood Co., demonstrates new range hood.



RIGHT — AFTER MEETING, builders show considerable interest in heating and air conditioning equipment, asking many questions of Tony Selvats, sales engineer.

This is a Landmark

New! LANDMARK by LENNOX

... MODULAR "BLOCK" SYSTEM FOR 100% TAILORED INSTALLATIONS



"Spectacular" is the word for this new Lennox development. It's spectacular in quietness... in installation versatility... in operating efficiency! Blower, heating section and cooling coil are separate packages—yet fit together as a compact unit to deliver the exactly right comfort. No guesswork—no "make-do."

It's as simple as ABC. Just choose the blower with the proper Cfm capacities—and add whatever heating and/or cooling units that best suit the need (as well as your customer's fuel preference and budget).

DOZENS OF COMBINATIONS... HEATING AND/OR COOLING



UP-FLO HEATING



BASEMENT MODEL HEATING



UP-FLO ALL-SEASON



UP-FLO COOLING

LENNOX Industries Inc.

How To Get Builder Market--

(Concluded from preceding page)

This is what the letter said:
"Gentlemen:

"We would like to extend an invitation to you to have a Smorgasbord buffet dinner with us at our store, Tuesday, January 14, 1958, at 7 p.m.

"We will have a few cocktails for those who wish them at 6:30.

"This dinner is for all home builders. We will take about 30 minutes after dinner to show you our new built-in ovens, burners, refrigerators, hoods, dishwashers, disposers, furnaces, air conditioners, and four complete lines of kitchen cabinets (all set up on display), plus our electronic oven will be operating to show you speed of light cooking.

"About 8:15 the Home Builders Association will show a 15-

minute film on the scope of building around the nation.

"Complete catalogs, with spec sheets and considerably lower price lists, will be passed out on our entire Westinghouse line.

"Sincerely,
"Henry Schippers

"P. S. Please sign and return enclosed post card, so we will know how many will attend.

"Free Door Prize! Please Join Us!"

The meeting went off according to the schedule outlined.

FHA's 'Blessing On Conditioning'

After the buffet, Henry Schippers took a few minutes to pass out literature catalogs, a Westinghouse book on 20 ways to help builders sell homes, and reprints of a Westinghouse advertisement that appeared in AIR

CONDITIONING & REFRIGERATION NEWS on recent changes in FHA policy, giving that agency's blessing to air conditioning.

He emphasized the one-year's free service that Schippers' five factory-trained servicemen stand ready to perform, the fact that Schippers is prepared to handle the complete installation of equipment, and price incentive to install air conditioning in a display home.

Tour Building

Following the builders association meeting, the builders were divided into small groups. One group was sent to the model kitchen display, another to the air conditioning and heating equipment display, and a third to the service shop.

At each point, salesmen outlined briefly what the company had to offer and answered specific questions.

Each group spent about 15

minutes at one display and then moved on to the next. After all had made the complete round, the builders were invited to discuss further any particular equipment that interested them personally.

Demonstrations for Those Interested

In the meantime, appliance demonstrations were conducted on the display floor where the dinner had been held, for those interested in appliances.

Manufacturers representatives and company salesmen assisted in the demonstrations and answered builders' questions.

Organized to move at a rapid pace, the whole affair was over by 11 p.m. allowing time for socializing between the guests afterwards.

Judging from the interest shown by the builders attending, Schippers feels the affair was a great success.

Wayne To Prosecute Retailers Who Claim Wholesaler Sales

DETROIT — Wayne county prosecutor's office has established a new department to "deal more effectively with business frauds and rackets."

Criminal Frauds Div. will work closely with the local Better Business Bureau, Michigan Securities Commission, Banking Commission, Insurance Commission, and departments whose purpose is to suppress frauds in operation of business promotions.

Samuel T. Olsen, prosecutor, said "The Criminal Frauds Div. will handle all of the fraud cases where the illegal operation, under the cloak of every day business, is either an organized operation or so widespread that a large number of honest Detroiters are being high-pressured and defrauded of millions of dollars. The division's jurisdiction will embrace fraudulent selling, advertising, soliciting, and collecting."

William P. Long, assistant prosecutor, has been named to head the division and a detective team has been assigned to the office by the Detroit Police Dept.

BBB Approves

In announcing its "strong approval" of the move, the BBB noted that letters and discount cards advertising furniture at "Dealers Show Room Cost," sent out by Allied Wholesale Distributors here, resulted in a conviction in Records court. The charge of false advertising was brought by a BBB representative after warnings by BBB and the prosecutor's office had been ignored.

Sidney Spitz, partner in charge of Allied's operations, was convicted and placed on probation for two years and ordered to pay \$500 court costs by John P. O'Hara, Records court judge. Any further false advertising would result in a jail sentence, the judge indicated.

Investigation had failed to substantiate claimed savings and in some instances showed the "wholesale" prices advertised by Allied were actually higher than regular retail prices for identical merchandise in other stores, BBB stated.

Reviews Deception

Following this conviction, a meeting was held in the prosecutor's office and Arthur Kosciński, chief assistant prosecutor, reviewed recent deception in use of the term "wholesale" and warned that retailers who persist in holding themselves out as "wholesalers" can and will be prosecuted for false advertising.

BBB has pledged its cooperation in a program to eliminate this type of "baiting"—whether it appears in newspaper advertising, radio, TV, store windows, catalogs, direct mail, or any other medium, it was explained.

year!

A "LANDMARK" IN AIR CONDITIONING AND HEATING... IN SALES OPPORTUNITY, TOO!

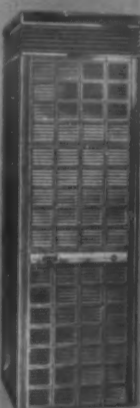
- Heating units in gas, oil, electricity and HEAT PUMPS
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- Simplifies your inventory
- Up-flo or down-flo



SECTIONS OR
"BLOCKS" STACK
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EASY AS **A B C**

Each section is housed in beautiful 20 gauge steel cabinet. Centering pins assure perfect alignment—give appearance of a single unit. Capacities—heating: 68,000 to 378,000 Btu input. Cooling: 2 to 10 tons.

DEALERS! Don't be "left at the post" in the BIG race for business. Get the facts about **LENNOX** dealer opportunities



"STORE TYPE" AIR CONDITIONING



UP-FLO HEAT PUMP WITH ELECTRIC STRIP HEATER

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Lennox Industries Inc.

(Address nearest branch. See locations at left)

Without obligation, send me information about the dealer opportunities with the new Landmark.

Company.....

Address.....

City.....State.....

My Name.....

SEND FOR REPRINTS

Product Knowledge, Protective Maintenance, Trouble-Shooting, Adjustment, Repair of Electric Motors.

Only 40¢ each.

For your copy, clip this ad and mail with name and address to: Air Conditioning & Refrigeration News, 450 W. Fort, Detroit 26, Mich.

Marlo Coil Continues Production As It Completes Plant Transfer

ST. LOUIS—Marlo Coil Co., was noted.

manufacturer of air conditioning and heat transfer products since 1925, has transferred its operations to a new plant and office building at 7100 S. Grand Blvd. here.

All manufacturing and administrative functions at the previous location, 6135 Manchester Ave., have been discontinued, and the property sold. The entire moving operation was accomplished without loss of production or services, it

was noted.

The new facility is a modern one-story building of brick, stone, glass, and curtain wall construction, with 120,000 sq. ft. of office and production area.

The building was completed in two stages. The first unit, for manufacturing only, measured 400 by 200 sq. ft., and began operation in 1954. Further expansion plans include the addition of a third unit, which will raise total production area to 300,000 sq. ft. on 23½ acres.

"The new plant has been equipped with specially designed machinery for the fabrication of Marlo products, arranged for straight-through production flow for the most efficient operation," the announcement said. "The entire

structure is air conditioned with newly-developed Marlo roof-top units for heating and cooling."

Marlo Coil manufactures air conditioning and heat transfer equipment for industrial, commercial, and residential applications, including central station units, remote room units, cooling towers, evaporative condensers, heating and cooling coils, industrial coolers, and low temperature units.

Promotes Room Conditioner On Chilly 12° Day

WASHINGTON, D. C.—American Wholesalers, Inc. here recently sent men out on a bright cold day with a 1-ton Fedders-Quigan Corp. room air conditioner as a promotional stunt.

Drawing the unit on a sled during the 12° weather, the firm presented the four-season air conditioning and heating model to downtown shoppers.

Adds Air Conditioning Distributing System to Cellular Steel Flooring

PITTSBURGH—What is said to be a new concept in distribution of conditioned air has been developed here by H. H. Robertson Co., manufacturer of building construction products.

Originally designed 25 years ago as cellular steel flooring called "Q-Floor," the cost-saving dimension "Q-Air Floor" adds an air conditioning distribution system to the load-bearing floor with its built-in electrical distribution system.

Reducing ceiling to floor-above space by 8 to 16 in., the Robertson firm claims Q-Air Floor makes possible air conditioning in office buildings at lower costs by eliminating dead space and weight.

A showcase office building has been erected by Robertson at

Ambridge to introduce the new product. Visiting architects, engineers, and contractors can probe the inner workings of the development and take readings off a control panel on air velocity, temperature, humidity, and other data.

Pulse of the air conditioning is taken at many critical points throughout the building and within the Q-Air Floor. The building has "Color Galbestos" maroon and blue porcelain enamel aluminum "Q-Panels" in its "Versatile Wall" sheathing, it is pointed out.

New Q-Air Floor will cut as much as 5% from the cost of a structure, the company explained. "Its saving of space can permit a bonus of at least another story on a typical 20-story building."

There is continuous economy for the life of the building, the company maintains, because of reduced heating and cooling units and electric power for moving air throughout the structure. This power saving is accomplished by a system of static pressure regulators permitting operating costs to be cut as much as 40% by reduction of power during off-peak seasons, it is claimed by the manufacturer.

Masterman Joins Staff of Patterson Consultants

YORK, Pa.—Consulting firm V. C. Patterson & Associates, Inc. here, engineering specialist in refrigeration, insulation, and air conditioning, has named J. V. Masterman of this city to its staff.

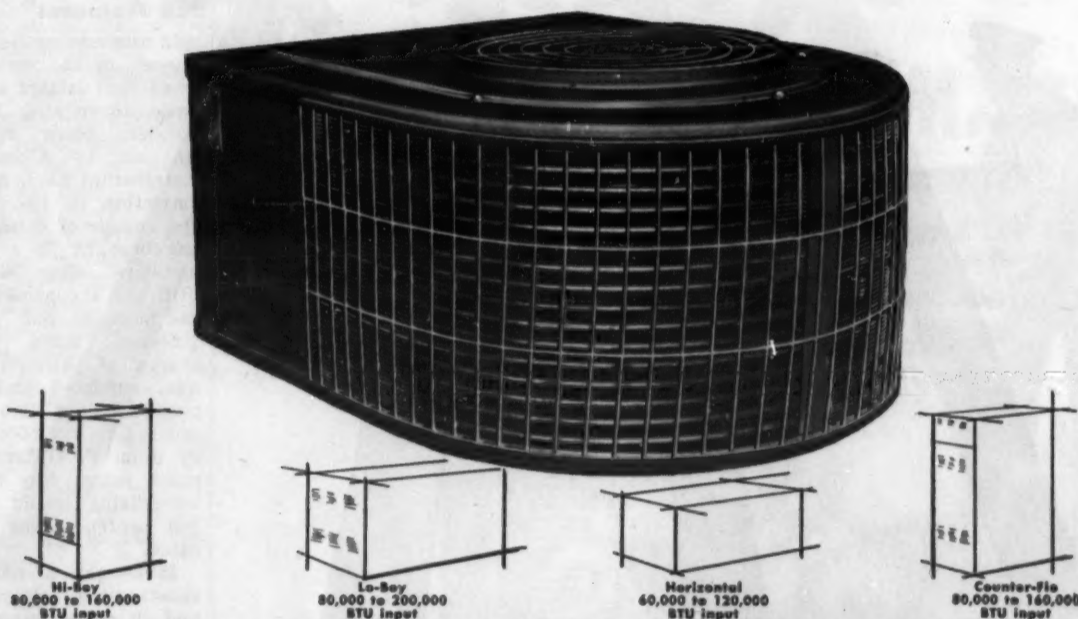
Formerly with York Corp., Borg-Warner Corp. subsidiary, Masterman was factory branch engineer, special contract design engineer, and special contract project engineer. He has designed many of the Armed Forces' test facilities. His last job with York was the design of what is claimed to be the largest heat pump air conditioning plant yet undertaken.

Masterman's first assignment takes him to Tehran, Iran as special engineering consultant for a proposed meat packing plant.

After he returns here he will join the design group on nuclear test facilities for the Atomic Energy Commission.

A graduate of Massachusetts Institute of Technology and registered engineer, Masterman is a member of American Society of Refrigerating Engineers.

MEET HEATWAVE'S NEWEST a waterless REMOTE CONDENSER for new and existing warm air systems



For year round air conditioning combine this new condenser with any one of Heatwave's gas fired furnaces and matching evaporator units.

It's Easy to Service. Oil sight glass, detachable valves, liquid sight glass, moisture indicator and dryer, and standard parts throughout minimize service problems.

Has Lower Operating Costs. A new, larger condenser face area gives lower operating head pressure and lower liquid temperature, resulting in lower operating costs and reduced mechanical failure. Tested under A.S.R.E. conditions in Southwest's own laboratory.

Appeals to Homeowners. The new "future look" design blends in with any landscape. A vertical hot air discharge allows grass and shrubs to grow around the unit.

There's a New Packaged Unit. Tool Heatwave has a new packaged air conditioning unit designed for existing systems and hot water or steam heat systems.

This self-contained unit is available in 23,000 and 36,000 BTU capacity models. Fully rated and tested under A.S.R.E. conditions in Southwest's own laboratory. This new unit makes many more cooling applications possible.

Learn more about Heatwave's new products and expanding sales program . . . Write Ben Church, Sales Manager, Dept. "C", Now!



HEATING

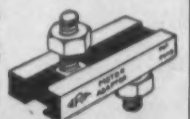
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AIR CONDITIONING

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NWAHACA

Will Study Air Movement In Split Level Illinois U House In Heating Research



URBANA-CHAMPAIGN, Ill. —Plans for what to many people may prove the most important new house of 1958 have been announced at the University of Illinois.

It is a new Warm Air Research Residence, the fourth to be erected at the campus by the National Warm Air Heating & Air Conditioning Association.

"Cooperative research in home heating has been carried on by the university with the association since 1919," it was pointed out. "More than half a million dollars has been provided by the heating industry. Results are public property and have benefited everyone."

'Have Brought Better Heating'

"These results have included better heating plants and installation methods, greater comfort through insulation and new heating systems, and air conditioning. Research has been both in the laboratory and under actual home conditions."

The new Warm Air Research Residence will be an 8-room, 2½-bath split-level home with four bedrooms, 2,000 sq. ft. of useable space, and built-in double garage. With lot, furnishings, and research equipment it will cost more than \$40,000.

Research equipment will include six miles of wires built in to provide instantaneous temperature information from 400 points inside and outside the house, within the walls, floors, and other parts of the structure itself, and from units of the heating system.

To Study Heating Plant's Functions

These wires will connect with recording instruments and panels in one section of the double garage so the research engineers may study how the heating plant is functioning, where the heat is coming from, where it is, and where it goes.

Internal movement of air between floors of a split level home is one of the things the engineers will study, according to Prof. Donald R. Bahnfleth, in charge of warm air heating research at Illinois. Other factors will be seasonal load variations on each level and heating of rooms over the garage.

2 Built-In Systems

Two heating systems will be built in, one with warm air perimeter outlets, the other with high sidewall or ceiling outlets, and two air return systems, one having one grille at

each level, other with a return duct from each room.

By blocking off portions of the house, it can be used for studies of one-level, two-level, or split-level homes, and of heating with a slab direct on the

ARCHITECT'S drawing of the fourth Warm Air Research residence to be built at the University of Illinois by the National Warm Air Heating & Air Conditioning Association this year. Cooperative research in this field has been going on at the Urbana-Champaign campus since 1919. Research residence No. 1 in 1924 was the world's first house specially built for home heating study. Residence No. 4 will have eight rooms, two-and-a-half baths, and a built-in double garage.

ground, crawl space, or basement.

The house will have cedar shingle siding, 2 in. of wall insulation and 4 in. of ceiling insulation, storm sash in the heating season, and double-glass doors between dining room and patio.

"In my book, no other control can begin to compare with WHITE-RODGERS..."

"My book, as a matter of fact, proves it! I keep a record of every job—and my service reports show in black and white... White-Rodgers controls give longer, better service!"

Wherever control trouble means loss, smart servicemen and application engineers use White-Rodgers for commercial and industrial refrigeration installations. Accurate, quick-acting Hydraulic-Action and rugged switch with oversize silver contacts, in dirt and vermin proof case, stop service troubles before they start.



Type 1609-12. The pinch-hitting king of the refrigeration control world. With a range of -20 to +50° F., Adj. Diff. 3 to 25°, 5 ft. capillary with 5/16 x 3/8 inch bulb it can handle almost any control replacement. Can be used in zoning systems. Make it a habit to keep several on hand.



Type 1629-11. Selective Range Temperature Control. Ideal for use on water, beer and beverage coolers, vegetable and meat display cases, etc. Cover dial graduated 1 to 5 with knob-pointer for easy adjustment of any point in selected portion of total 20 to 75° range. Capillary, 5 ft.



Type 1639-6. Manual Pre-Start Temperature Control for use on milk coolers where it's necessary to have compressor running when warm milk is added. Pre-start button for manual starting of compressor. Range 33 to 55° F. Capillary, 5 ft. The 33° F. minimum range prevents dial from accidentally being set to a milk-freezing temperature.



Type 1609-13. knob type, for control of a wide variety of refrigeration applications where frequent changes in temperature are necessary. Can be used in zoning systems where all thermostats control a common compressor, but operate separate solenoid refrigerant valve in each zone. Range: -20 to +50° F. Capillary, 5 ft.



Type 1609-31 has special 15/16 inch air-sensitive bulb to give quick and accurate response to slightest temperature changes. For use on ice cream, quick freeze, deep freeze and frozen cabinets. Range: -20 to +50° F. Also available for 33 to 55° F. Capillary, 5 ft.

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MANUFACTURER SHOULD NOT LOSE CONTROL OF SALE

Great Neck, N. Y.
Editor:

I've been reading your editorials and timely messages on what's ailing the Heating & Cooling industry with as much interest as I do the Bible—and I do love reading the Bible.

Sure, many of us appear to agree what has been done and what has to be done—but what is holding us up?

Let's take the manpower situation. I believe too many of the executives making policy are not surrounded by the right kind of talent. Sure, in big corporations, there is a certain amount of red tape, and decisions will sometimes be delayed, but, gosh, why don't these big outfits get some men in key positions who have come up from the firing line—men who have worked hand in glove with the sheet metal contractor, heating and cooling dealer, home builder, architect, engineer, utility companies, even the ultimate home buyer?

The Heating & Cooling business is a terrific business. But

like Homer Travis of Kelvinator said in your Jan. 20 issue: "The situation today is particularly frustrating when we view it against the potential this industry inherently has today, and against the truly glorious prospects we know it has for the future."

Men of the experience mentioned above, with creative talent, business know-how, and a faith and confidence in our industry, can do much to help pave the way to a glorious future—instead of wallowing in the seeming despair which now envelops all of us.

I am of the philosophy that good things do not come easy! What's ahead of us is a challenge, but a worthwhile one! Is the manufacturer going to take a stand where his method of distribution is merely to dump his merchandise in the hands of a distributor or branch who in turn will dump it on any dealer and contractor, and hope by luck and some semblance of a sales promotion and special

(Concluded on next page)

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Keep up-to-date on what's going on in your industry. You'll see action weekly in AIR CONDITIONING & REFRIGERATION NEWS. Covers latest news and gives you top how-to-do-it reports on commercial and residential air conditioning, heating, commercial and home refrigeration: manufacturing, contracting, distributing, retailing, and servicing. Read the Industry's newspaper for profit every week. Only \$6.00 per year, 52 issues (U.S. and Canada). Foreign: \$10.00 per year.

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For Air Conditioning Profits

(Concluded from Page 1)

What is, then?

Clue: the contractor and dealer—men on the firing line—undoubtedly are THE most important factors in the future success of the complete air conditioning industry. They need to be cultivated, educated, and INSPIRED.

Someone has to SELL the product—lest the pipelines of distribution become chuck-full and back up, as they did in 1953, 1955, and 1957.

That "someone" who can do the job is the contractor or dealer who BELIEVES that air conditioning is HIS key to a better life. Said specialist is sold on air conditioning *per se*, himself. (He's a rare bird, unfortunately).

This fellow accepts community responsibilities far beyond the mundane selling of a product, of course. Sell he must, but also he has to install well and service—to maintain the trust of his neighbor-clients.

Finest equipment will give poor satisfaction if not properly applied and installed, he realizes.

Not all contractors and dealers, it will be admitted, can do BOTH a good job of selling and/or take care of customer-pleasing installations and servicing.

Nevertheless, if residential air conditioning is to grow and prosper, the twain (salesmen and technicians) should meet and join hands under one roof—to become dedicated air conditioning dealer specialists.

Because there was clamor for air conditioning three or four years ago (or so it seemed) then-scarce dealers felt scant urgency to make all-out selling efforts. So local representatives sat back on their haunches.

They're still sitting, we hear, and still bidding—instead of SELLING.

Times have changed recently. Owners of residential air conditioning are dissatisfied, prospects are fearful, and our Industry is alarmed.

Manufacturers, for example, are bothered by a major problem: insuring satisfactory installations by dealers and contractors

—not all of whom realize what a proper installation should be (and too many of whom apparently don't give a fig).

Many contractors and dealers have a lot to learn as to what constitutes a good installation, as Dale Mericle's surveys potently and pertinently reveal.

The too few conscientious contractors probably know better, but find it easier to cut corners and quality to meet competitive prices. (This is not to imply that a good installation must be expensive.)

To be sure, mill-run dealers and contractors can make a reasonable profit on moderate-priced systems which are well engineered. Likewise, they can lose their shirts if their original quotation is too low, or if labor expenses get out of hand.

There seems to be an agreeable correlation between component costs, direct labor and ductwork charges, and profits on most commercial and residential air conditioning installations. The more materials required, the more labor will be needed to get them installed and hooked up well. That's a challenge to original equipment manufacturers.

Reduction in labor charges (both direct and indirect) required to install an air conditioning system are a problem, nearly everybody agrees. However, nobody "in charge" expects labor-charges will cut down to size.

The REAL challenge to air conditioning dealers and contractors, therefore, is embraced in SALESMANSHIP. Instead of concentrating on getting prices (and costs) down to beat the lowliest competitor, why not invest in salesmen?

That better prices have to be obtained, or that labor costs have to be cut, or both would seem obvious. Even more important is SALESMANSHIP.

Our bet is placed on the dealer or contractor who likes to SELL, and who himself is sold on air conditioning as a means of leapfrogging into a Golden Future.

He is The Air Conditioning Specialist. This MAN, who is so rare nowadays, will emerge to spark our industry's great potential.

In the business world an executive knows something about everything, a technician knows everything about something—and the switchboard operator knows everything.—HAROLD COFFIN.



OFF THE CHEST

(Concluded from preceding page) price, the goods will move?

No, if we are ever going to see daylight, the stand should be where the manufacturer never loses "supervision" of the sale or presentation being made to the homeowner. Some control over the type of dealer to be selected to handle a line is very important.

During my years in the Residential end of our business, I have seen many jobs given to a higher bidder because of the lack of confidence evidenced by the homeowner in the salesman who was only selling price.

Example: a neighbor across the street wanted to replace his old furnace. Reps from two big name outfits came in and merely gave him prices on their furnaces. Then the neighbor called me in for suggestions. I represent a distributor of still another famous brand—but, I didn't stress price and further, I gave him a spiel on the advisability of adding cooling now.

Obviously, my approach was different—I wasn't selling, I was getting him to buy, by rendering him the kind of service he wanted to hear. Result, my dealer got the job for both heating and cooling over both competitors who came back and again gave prices on adding cooling. And, my dealer's price was \$600 more than his competitors!

I can also relate stories why many project home builders do not consider air conditioning, let alone warm air. All because the reliance is placed on the sheet metal contractor, who really closes the door on air conditioning because of his "fear of price," and loyalty to no specific brand of equipment.

With thousands of homeowners and prospective homeowners visiting as many as six projects on a given week-end, can you think of more fertile field to show off your heating and cooling units? And the lack of a program to "capture" their names and addresses for future sales either in their existing or new home is amazing.

I have spent five years in the Residential end of our business—both new and existing home market from the Distributor level. I have been a salesman in the field, and an executive behind a desk.

In any event, keep battling out the wonderful news and timely messages. You and the paper are a beacon in the night for an industry that appears to be weak on its feet.

MORT ZIMMERMAN

1926 BOOK STILL FITS SITUATION IN 1958

Davis Refrigeration Co., Inc.
Worthington Distributors
Buffalo 1, N. Y.

Editor:

Enclosed you will find a copy of a booklet entitled "Ask Him" published in 1926, which I think will be of interest to you.

It simply proves that opinions expressed in "Off the Chest" and "Inside Dope." I suppose a fellow who discovered the first wheel went through the same opposition to his ideas.

KENNETH E. CHAMPAGNE

INDEPENDENT SERVICEMAN FINDS PARTS 'SCARCE'

Editor:

I worked for three different Franchised dealers, now I have a service shop of my own. I had a good idea of all the problems of being a dealer and giving service.

The payoff came when I tried to get parts for other makes other than our own.

I am on my own now, and after writing to some of the manufacturers' parts distributors, they wouldn't even bother answering my letters. I am writing to them one at a time to tell them what they can do

with their parts. They can all go to "hell." Who cares how much new junk comes on the market if we independent servicemen cannot get parts to service them. Some of the dealers don't want to service what they sell. Are we servicemen supposed to beg the parts distributors to sell us parts to service a washer or refrigerator when we didn't make any profit on the original sale, and cannot get parts.

The people who cannot get service can scream their heads off all they want.

I will "knock" any make of appliance if parts are not freely available. I intend to keep appliances in workable condition even if they are 20 or 25 years old, as long as the owners want them repaired, to keep dealers from selling new washers and refrigerators.

JOHN A. ROMAINE

OLDTIMER RETURNS FROM EDMONTON TRIP

Recold Corp.
San Bruno, Calif.

Editor:

Many of my father's friends in the industry may be happy to read the following in the NEWS:

Les Werner, Recold's Northwest District Manager, and his wife have just returned to San Francisco, after a flight to Edmonton, Alberta, Canada, where his parents, Mr. and Mrs. J. A. Werner, celebrated their 60th Wedding Anniversary.

Les got his start in refrigeration in Edmonton with his father, where the latter organized the original Kelvinator distributorship for the Province of Alberta, in 1927.

Thank you for the privilege of reading such a wonderful publication all of these years.

W. L. WERNER

HONEYMOONER PROMISES PAYMENT UPON RECOVERY

Editor:

Several weeks ago, I received the following letter from one of our students regarding his delinquent account.

"Dear Sir:

The reason I have not been able to make any payments on my account is due to the fact that I have been on my honeymoon for three weeks.

As soon as I get back on my feet, I promise you I will start making my payments again."

S. W. GREENBERG

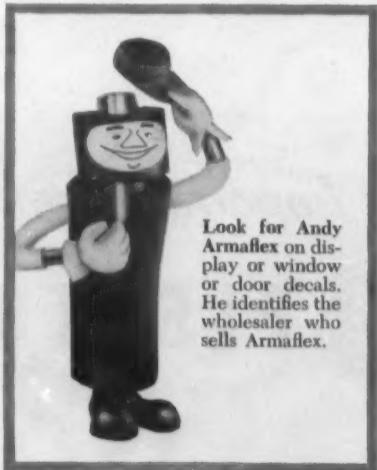
For Your Reprint Copy

"Emergency Diagnosis, Repair of Hermetic Unit Electric Components," by John L. Zant, mail this ad with your name and address to: Air Conditioning & Refrigeration News, 450 W. Fort, Detroit 26, Mich.
Only 25¢ each.



New Armaflex line includes 3/4", 1/2", and 3/8" nominal wall thicknesses to 3" IPS. On larger piping, Armaflex sheets are used.

Now—3 thicknesses of Armaflex pipe covering to stop condensation down to zero



Now Armstrong Armaflex comes in a brand-new 3/4" nominal wall thickness. With this new pipe covering, you can apply the economical amount* of insulation to stop condensation on lines operating all the way down to zero. For higher temperatures or less severe conditions, you can choose Armaflex in 1/2" and 3/8" wall thicknesses. Minimum thicknesses of Armaflex can be used because this insulation has a low k factor of .28 at 75° F. mean temperature and its closed cell structure seals out all air, vapor, and moisture.

With Armaflex, labor costs drop as much as 50% compared with costs of applying conventional insulation to pipes and fittings. Armaflex can be slipped over piping before connections are made, or slit and snapped in place. Joints are sealed with 520 Adhesive. Fittings are easily and quickly insulated.

* Recommended Armaflex thicknesses for various service conditions are listed in free descriptive booklet. For your copy, write today to Armstrong Cork Company, 2203 Parsons Street, Lancaster, Pennsylvania.

Armstrong INSULATIONS

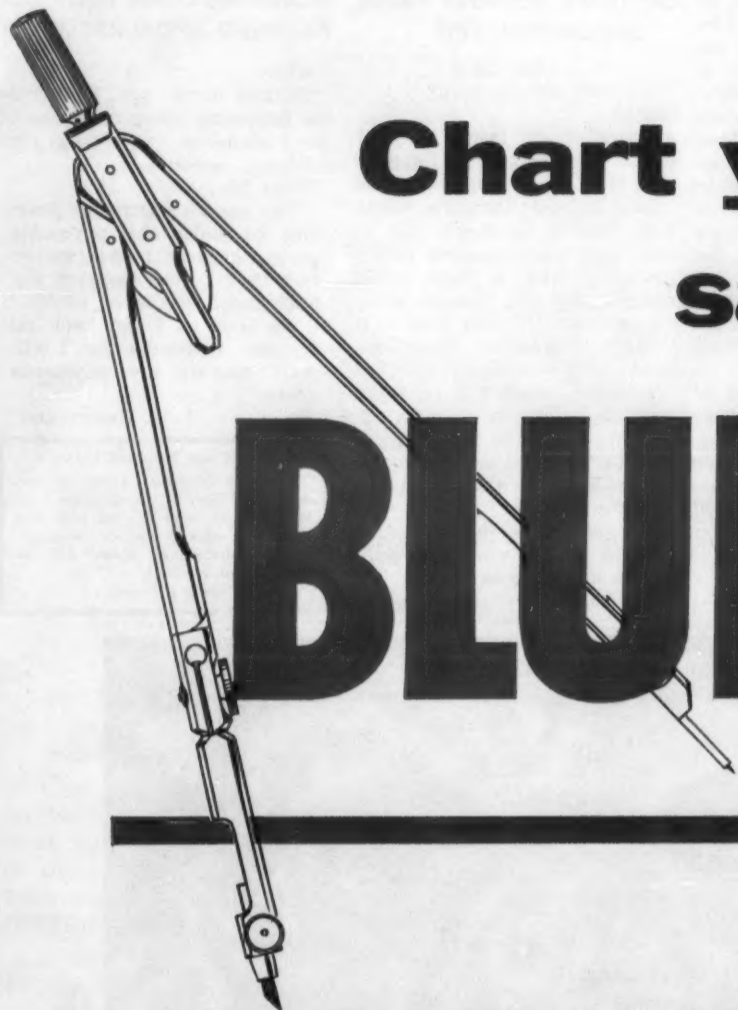


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**In Residential Heating and Cooling...
In Commercial, Industrial
Air Conditioning** ★ ★ ★ ★ ★ ★ ★ ★

★ GENERAL ELECTRIC HAS A PROFIT PLAN

This is going to be the BIG year for dealers of General Electric Air Conditioning Division products. It's going to be the year that G-E Dealers move way out front in sales and profits—because General Electric offers its dealers a BLUEPRINT FOR LEADERSHIP that's designed to do just one thing: show air conditioning and heating dealers how to sell and install *more products than ever before!*

This Plan is built around the selling power of the

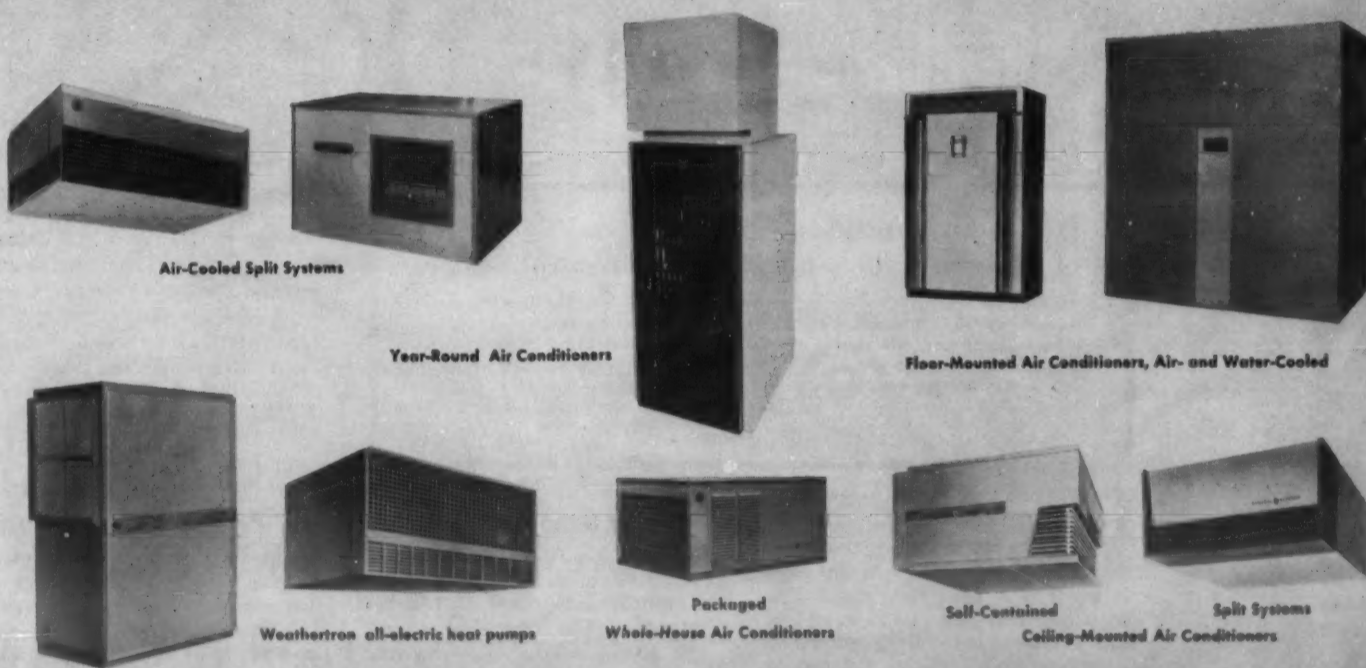
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ACDS

Selling Slants

Dealer Uses Chats, Reminder Literature, Personal Calls To Develop Air Conditioning Prospects Met at Home Show

By George M. Hanning

MARION, Ohio—One of the most prolific sources of new heating and air conditioning business for Carl Montgomery of Montgomery Bros. heating and cooling dealership here is the annual Marion home show.

Usually held the first week in May, the home show is timed nicely to flush out "live" air conditioning prospects and provide a healthy list of leads to follow up during the summer and fall.

"In our four years of participation in the event, we have never failed to sell enough equipment right at the show to pay all expenses," Montgomery declared.

'SOME SALES COME 2-3 YEARS LATER'

"In addition, we can point to many sales made long afterward—even two or three years after the customer stopped by our booth—that can be attributed directly to the show."

Why does the home show produce so well?

Montgomery believes that aggressive management of the event has a lot to do with it. In fact, the home show has been so well advertised and made so interesting to the public that it has replaced the county fair, he says.

Other factors that help exhibitors to make the most of their investments may seem like small things, but are important, the Airtemp dealer believes.

First is the layout of the show. Held in the Coliseum, it permits some 50 exhibits to be arranged horseshoe fashion around the oval floor. Thus in a single swing around the floor, visitors are exposed to every booth in the show.

The broad aisle between the two rows of booths encourages leisurely strolling. Groups of people can stop at a particular booth without blocking the even flow of traffic.

Every hour during the show, a public address system calls public attention to highlighted features of various booth, tells where they are located, and names the persons currently on duty. This latter feature has proved very helpful in drawing interested visitors to his booth, Montgomery declared.

The local radio station WMRN gives full coverage to the show. One feature is five-minute interviews with different exhibitors. To be interviewed costs extra, but is well worth it, Montgomery said.

The interview not only goes out over the air but is piped to the Coliseum where it is heard by all visitors on the floor at that time. Comments after the interview prove that it received wide attention, he said.

Montgomery's own booth is a simple affair. A small dealer, he cannot afford an elaborate one. He rents the backgrounds from a display firm and exhibits typical units of the heating and cooling equipment he sells.

He usually has some new or unusual piece of equipment in operation to attract attention.

During the show, Montgomery, his wife, or his brother Rolin—who handles the installation and service end of the business—are on hand at all times.

They chat with visitors, answer their questions, take names of any showing interest in the products, and hand out literature.

After the show, they send reminder literature to every name they have taken and follow up on "live" prospects with a personal call.

"There's no substitute for a personal call to make sales," Montgomery affirms.

While the home show produces visible results of its worth,

Montgomery does not neglect other means of stimulating business.

MOVING INTO COOLING

While 80% of his business is in heating, nearly three quarters of it in the residential field, Montgomery is moving gradually into cooling.

He does not think air conditioning has quite "arrived" yet, but he is ready to move in when it does.

Paraphrasing a comment made about electric refrigerators 30 years ago, he asserts, "Air conditioning won't start to sell in volume until there is one unit in every block. Then women will start talking about it, experience it, and demand it."

MAKES PROVISION FOR COOLING

But right now Montgomery is making provision for air conditioning in every furnace he sells. He explains to the customer what he has done and why.

Truthfully, he admits, the idea has not paid off yet. But he attributes this to cool summers the past two years that have hurt air conditioning sales generally, and to the fact that owners of new homes are still struggling with their initial obligations and unable yet to afford cooling.

He has confidence that the practice will pay off eventually.

Montgomery takes a regular weekly advertisement in the local newspaper. In every advertisement the year around he at least mentions air conditioning, even when promoting heating. Thus he hopes to establish in the minds of readers that he

is in the air conditioning business so they will think of Montgomery Bros. when interested in cooling.

Although he cannot point to specific sales from newspaper advertising, Montgomery is sold on its value.

Montgomery runs an advertisement nearly every Saturday on the business page and one during the week when some special occasion warrants. He bases his ad on factory supplied mats. He cuts them up to fit the space he uses or to a particular idea he may have. He steers clear of price advertising, concentrating on product benefits.

But despite all these efforts—valuable as they are—the bulk of Montgomery's business comes through referrals from customers—satisfied customers.

"One or two words from a satisfied customer has more power to convince than a whole talk from a salesman," he contends.

Good housekeeping counts a lot more with customers than you may imagine. What kind of impression are you conveying through your store, your trucks, your servicemen? Think it over — then read why . . .

good appearance pays off

No. 1 in a series of business guides for Mueller Climatrol dealers

This article launches a monthly series designed to bring Mueller Climatrol dealers useful information in key areas of marketing and management, such as financing, internal procedures and merchandising. By reviewing principles, not just products . . . how to sell rather than only what to sell — we hope to encourage sound, efficient business practices that are necessary for sales success in today's heating and cooling market.

YOU'VE quoted a good sound installation — and from the prospect's reaction, feel certain that your estimate is in line. He's stopped in with his wife, and you're sure you did a convincing selling job for a top-notch unit. Nothing left but to wait out the call.

Will it come? The pendulum may well have swung at the point where the customer visited your store. What did he find — a clean, well-ordered establishment that affirms his confidence? Or the kind of unkempt workshop that seems to contradict quality?

DOESN'T COST — IT PAYS

There's plenty of proof that a well-kept place of business pays off in orders. One Midwest Mueller Climatrol dealer, for instance, boosted profits almost 100% in three years after remodeling his store front and showroom, and now does a better-than-million-dollar annual volume. And while there's no guarantee that face-lifting measures will pay off as remarkably in every case, these long-range benefits are certain.

PRESTIGE BUILDER

First, good store grooming helps implant your name and business in prospects' minds. Says the Mueller Climatrol dealer referred to earlier: "A person might travel up and down the street for years and never

call on me because he doesn't need my services. But when the time comes to order a new heating or cooling system, he will probably remember my place and give me an opportunity to bid on the job."

Secondly, good appearance reflects integrity . . . indicates a well-established, successful operation. Think of the firms with whom you do business . . . notice how the successful concern in almost every case looks the part.

MANUFACTURER WILL HELP

Granted, in today's price-sensitive heating and cooling market, the dealer must keep an eye on overhead. But there are probably many measures short of costly modernization that can help put your best foot



PUT "SHOW" ON THE ROAD. Neat, well-tailored Mueller Climatrol uniforms make a winning impression during service calls. Also notice weatherproof truck decal which gives colorful tie-in identification at a fraction of the cost of painting.

Air Distribution Requirements In Year-Round Air Conditioning

Putting Psychrometry To Work (2)

By Frank D. Klein, Chief Engineer, Governair Corp.

Frank Klein has been associated with the air conditioning and refrigeration industry for over 20 years. An engineering graduate of the University of Michigan, he has held executive positions with a number of leading manufacturers.

Designers and applicators are rarely faced with the problem of providing heat to a dwelling from the standpoint of limited equipment and how much heat only a given air supply will do. On the other hand equipment is selected to do the job based on the air quantity required and the capability of that equipment to supply the required air at the temperature required to maintain the conditions desired, based on the predetermined Heat Loss.

Heat Loss through other than inducement by ventilation in the heating cycle is but part of the problem. In an enclosed space there must always of course be ventilation. Ventilation sufficient to freshen the atmosphere from time to time is a determining factor when calculating the quantity of air to be delivered to the space, not withstanding

the effective temperature. Thus in actual practice the approach to quantity of air is governed by the effective temperature.

When the formulae, $H_s = 1.1QR$ is concerned it then becomes instead:

$$R = \frac{H_s}{1.1Q}$$

This is so because the approach is now made from the change in the Dry Bulb Temperature of the air to be supplied. Here is an example.

Problem:

A survey has indicated that the Heat Loss on a dwelling is 125,000 B.t.u. per hour. In the survey it is indicated that to provide the necessary air changes for adequate ventilation

a total air supply of 2,650 c.f.m. will be required. At what temperature will we have to maintain the air supply in order to turn maintain an indoor effective temperature of 75° F.?

(DB)

Solution:

$$R = \frac{H_s}{1.1Q} = \frac{125,000}{1.1 \times 5,000} = 42.75^\circ$$

Temperature of the air supply must then be: $75^\circ + 42.75^\circ = 117.75^\circ$ F.

This problem has been taken on the basis of forced warm air and falls well within the normal ranges of air supply temperatures which are recognized as

varying between 105 through 120° F. More about these normal ranges will be discussed later under the heading of Equipment.

We still are dealing with Heat and the transfer of Heat in the cooling cycle. In this cycle, however, the problem is abstracting and eliminating the heat from air atmospheres to that point of the effective temperature.

When cooling the air atmosphere of a space, the air supply discharged into the space must naturally be cooler than that of the space itself. In the cooling cycle the problem is to determine how COOL the air supply has to be in order to absorb the necessary amount of sensible heat in order to maintain a required temperature.

The cool air when supplied to the space and mixed with the space air warms up to the space air temperature when not supplied in the required quantity and exchanged frequently. Thus we are now involved with how much sensible heat an air atmosphere of a certain temperature on discharge can absorb in order to produce certain desired results in an effective temperature.

Example:

Assume a dwelling in which it is desired to maintain a Dry Bulb temperature of 73° F. The equipment available is able to deliver a maximum of 2,000 c.f.m. Assume that this equipment is a warm air forced air furnace outfitted with an add-on cooling coil in the discharge plenum, and that with the air-cooled condensing unit it will produce a discharge air temperature of 57° F. How much sensible heat will this quantity of air at this discharge temperature be able to absorb?

Solution:

$$R = 73^\circ - 57^\circ = 16^\circ$$

$$H_s = 1.1QR$$

$$1.1 \times 2,000 \times 16 = 35,000 \text{ B.t.u. per hour that such an air supply will absorb.}$$

In all problems facing the air conditioning engineer where he is involved in producing TEMPERATURE, usually the first concern is temperature itself, then how to obtain it easily follows.

Next will be presented some other arithmetical examples of practical problems.

(To Be Continued)

California County Studies Heating, Ventilating Code

MARTINEZ, Calif. — A proposed heating and ventilating code controlling installation of appliances ranging from gas or oil heaters to domestic clothes dryers is being reviewed by Contra Costa county supervisors.

Drafted by the county building department staff, the 54-page ordinance would require permits and inspection fees for installation of gas and oil piping, hot water heater panels and pipe, floor or wall furnaces, heating or cooling air ducts, and some fans and blowers, it was explained.

Exempted from the permit requirement would be portable heating appliances when installation cost does not exceed \$100. Provisions would not apply to maintenance, repair, or replacement of heating equipment already installed.



COMFORT COME-ON. Scene shows typical attractive store front possible with

Mueller Climatrol spruce-up aids. Included here are Signarama outdoor sign, unit

display background and window valance—all available at cost from Mueller Climatrol.

farther forward. Elbow grease and paint often make a good formula. In addition, manufacturers such as Mueller Climatrol offer a variety of low-cost "dress-up" aids designed to brighten the appearance of even the most modest store facilities.

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BETTER

MANAGEMENT What are the elements of "good management" for the air conditioning and refrigeration and heating dealer or contractor?

There are many elements that go into "good management" for this kind of a business, but it would seem that the three principle ones would be (1) the development of the kind of salespower that will develop enough sales volume to operate the company profitably and promote expansion; (2) proper control of expenditures and services to insure an adequate profit; (3) proper direction and handling of personnel to promote growth in the business and retention of good personnel.

In this series of articles the NEWS has drawn from a variety of sources to present some of the best current thinking on some specific elements that make for success.

Job Description for Salesmen Helpful Guide In Selecting Employees, Directing Activities

ST. LOUIS—Detailed descriptions of a salesman's job can be extremely helpful to the air conditioning contractor in selecting applicants and to the salesman in showing him exactly what he's supposed to do, it was brought out in a management conference for Typhoon distributors held here.

'EFFORT CAN PROVE WORTHWHILE'

Effort devoted to working up a job description for salesmen can prove quite worthwhile, the conference was told by Charles L. Lapp, professor of marketing at Washington university here, who presented a basic outline of how to make such a description and offered a sample.

To prepare a job description,

Lapp told the distributors to:

1. Find out what salesmen think their job actually is and what they think it should be.
2. Find out what your buyers think your salesmen should and should not do.
3. Observe your salesmen in action.
4. Find out what competition is doing.
5. Tabulate findings thus far and analyze them.
6. Reconcile differences in findings with company objectives.
7. Classify activities into major and minor ones.
8. Allot a certain amount of time for the performance of each activity.
9. Submit first draft of job description to your salesmen for

discussion and suggestions.

Final shape that the salesman's job description takes will, of course, depend on the individual requirements of each contractor or distributor, Lapp said, but he offered the following as a sample for a retail air conditioning salesman:

JOB DESCRIPTION

The man to be employed by this company for the above position will be expected to have certain definite capabilities. In order to help you to determine your interest and the degree of success you can achieve, we have prepared this job description. The purpose is to help you fully understand the duties you must be able to perform, how they should be performed, and

why we feel they should be performed in the manner described.

1. As a salesman, you will be employed to produce profitable air conditioning sales. The majority of your sales will be made in existing homes, existing commercial buildings, new commercial construction and industrial plants. The man we are seeking will be able to make 80% of these sales on a "proposal and sell" basis as differentiated from bid and spec work. The experience of our present salesmen indicates that there is a great deal of profitable volume to be obtained by salesmen using this basis.

2. The salesman who is employed must be able to develop prospects. He should plan to spend 15 to 25% of his time actually engaged in prospect development. This will be done by proven methods, including telephone prospecting and personal calls, both following up sales and canvassing.

ADVERTISING MEDIA

This company spends a reasonable amount of money in advertising. We use such media as billboards, radio, direct mail, and newspaper advertising. These are used to supplement the prospect development efforts of our sales department and assist them in developing prospects. Leads and inquiries received as a result of the advertising program are assigned to salesmen on a revolving basis. The importance of the salesman developing his own prospects for profitable sales has been proven by our present sales department.

3. Drafting and lay-out work by members of the sales department is kept to a minimum. The policy of this company is to have the salesman spend as much time in face to face selling as possible. Occasionally you will be expected to prepare some line drawings when the expense of detailed lay-outs is impracticable.

4. The duty of pricing jobs by salesmen is dependent upon the job type. Generally speaking, costing is handled by the

(Concluded on next page)



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SURE of Your Own Satisfaction—because your installed cost is low with factory-assembled units designed for fast, time-saving installations . . . because the cost of your one-year service liability is almost nil with Peerless quality and easy-to-service design . . . because you end up with a greater NET profit—proved by a host of happy, prosperous Peerless dealers.

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Job Description-- Selling Slants

(Concluded from preceding page) engineering department on those jobs requiring drafting and layout work. On jobs requiring simple line drawings, the salesman is expected to perform the duty of pricing. In either case, the salesman has to arrive at the selling price. All jobs, however, are subject to pricing approval by the management before presentation of proposals.

Foreman Heads Installation

5. Installation supervision is normally handled by foreman of the installation department. The salesman is expected to make only goodwill calls during installation as he deems advisable. Every salesman is expected to visit the job, whenever the installation time is three days or more. The purpose of this is to let the customer know that the sale did not end when the order was signed. Our foreman and men are instructed not to enter into any discussions with customers which may become controversial. The salesmen are called to handle such problems.

Sale Not Over Until Money Is In

6. A sale is not completed until the money has been collected. Whenever a customer becomes more than 45 days late in payment, the salesman will be required to see the customer and arrange for payment in full.

7. Salesmen are expected to report on competitive strategy in the interest of helping themselves as well as the entire company. Meetings are held with the sales organization for this purpose, among others; however occasionally there may be actual competitors of unusual significance which should be brought to our attention immediately. Your judgment determines this.

8. Sales meetings are held every two weeks. Since the location and type of meeting is varied, two weeks notice is given regarding the meeting. You are expected to attend these meetings and participate actively.

Satisfied Commercial or Industrial Air Conditioning Buyers Help Contractor Expand Residential Unit Sales

KALAMAZOO, Mich.—Satisfied users were our best source of residential air conditioning customers, commented Tony Lorenz, owner of Tony's Refrigeration here.

Residential air conditioning was a minor share of Tony's business last year but he still sold a dozen or so units. A Worthington dealer, Tony does most of his volume in large commercial and industrial applications.

However, Richard Brockway, one of Tony's sales engineers, concentrates his time on air conditioning, heating, and ventilating sales.

"Most of our work in residen-

tial air conditioning came from people who had previously bought some commercial or industrial air conditioning or refrigeration equipment from us and turned to us for their home cooling. Or, in some cases, friends of customers called us on their recommendation.

'Sales Went Into Existing Homes'

"As a result, all of our sales went into existing homes. It's a funny thing, but almost all sales were made in September and October, after the cooling season was over," he noted.

Tony said he made no attempt to go after the builder business.

"I couldn't compete with the sheet metal shops," he said.

He deplored the sales tactics of some manufacturers' salesmen who tried to make him believe that if he put in a floor sample the public would walk in and take it away.

"I had five salesmen in here one day, one right after the other, and they all had the same song and dance," he related. "Put a unit on the floor and it is sold. For installation all you have to do is set it in place and plug it in."

"The last salesman I questioned more closely to see what he would say. He assured me that I didn't have to know

anything about compressors, lines, and B.t.u.'s. They were built-in by the manufacturer. Such incidentals as adequate power lines, furring in, and city permits were brushed off as of no consequence. I had to sell.

"Unfortunately," he added, "we came across a lot of jobs that were apparently sold that way by others. The customer was very unhappy, disgusted with the dealer he bought it from because he couldn't get service, and unwilling to pay someone to correct the job."

'Need To Tell Public How To Buy'

Brockway commented, "What we really need is not so much trying to tell people how to sell air conditioning as a campaign to tell the public how to buy air conditioning. If they were informed of what to ask about, there would be a lot less of these fly-by-night dealers."

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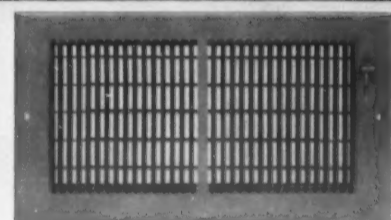
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How Owners Use Summer Air Conditioning

(1) Most Set Thermostat Below 80°F. (2) Many Lower Setting When It Gets Hot Outside (3) 65% Don't Open Bedroom Windows

MILWAUKEE—How do homeowners actually use their summer air conditioning equipment?

Mueller Climatrol, Div. of Worthington Corp., surveyed by mail a portion of their customer list to find out. Highlights of the results were published by the NEWS late last fall.

A more detailed analysis is presented here.

Most significant result, according to Mueller, was finding that almost all users of summer air conditioning set their thermostats at less than 80° F. Two out of three users set it at 76° F. or below.

This contrasts, Mueller says, with the industry recommendation that air conditioning systems be designed for an indoor temperature of 80° F. Major changes in the sizing of air conditioning systems must be considered in the immediate future, Mueller concludes.

The survey was conducted by letters sent to 1,760 owners of Mueller Climatrol residential equipment, both air and water cooled and ranging from 2 to 7½ hp. Mueller received 778 replies that could be tabulated.

George M. Hase, manager of sales engineering, headed the survey project. The questions asked in the survey are listed in the accompanying box.

Results of the survey and Mueller's interpretation of the returns are given below, question by question.

1. Over 90% of the respondents stated that their thermostats were set at less than 80° F. Tabulated below are the results of the settings:

Setting	Per Cent
70° F.	5%
72° F.	12%
74° F.	18%
76° F.	29%
78° F.	25%
80° F.	9%

These responses, as to thermostat setting, were later cross-tabulated by the year in which the installation was made, to find out whether there was any correlation between experience with air conditioning and satisfactory comfort levels. The results of that tabulation are:

Year of Installation	Per Cent Setting at 76° or Less
1953	76%
1954	73%
1955	66%
1956	59%

These results on thermostat setting were also tabulated by general regions of the country. Once again, we tabulate the summary of the percentage of users setting their thermostats at 76° and below:

Region	Per Cent
North Central	60%
Northeast	73%
West & Southwest	67%
South & Southeast	77%

Results were also tabulated by the outdoor design wet-bulb temperature to determine whether such climatic conditions might have an influence on indoor comfort temperature settings.

This breakdown was some-

Survey Questions

As the owner of a Mueller Climatrol Summer Air Conditioner, you have some information that is of interest to us.

If you will be so kind as to complete the short questionnaire below, we will sincerely appreciate your help. A stamped, self-addressed envelope is enclosed for return of the questionnaire to us.

1. At what temperature do you normally set your thermostat for cooling?
2. Do you raise this temperature when it is extremely hot outside? Or lower it?
3. Normally, do you let the thermostat operate the air conditioner? Or do you keep the unit off until it becomes warm in the house?
4. How many persons are there in your family? How many many below 10 years old?
5. In the summer time, do you keep doors and windows closed when it's over 80° outside? Over 85° outside? Over 90° outside?
6. Do you open bedroom windows at night?
7. Do you keep storm windows on in the summer time?
8. What is the approximate area of your house in sq. ft.? What direction does it face?
9. Is your air conditioning system adequate when entertaining?
10. Are the various rooms in your home at relatively the same temperature while the air conditioner is operating? If not, is the difference greater in the morning? Or evening?

what inconclusive except that it did verify the rather consistent fact that the majority of users in all climate zones set their thermostats at 76° or lower.

While it is very difficult to draw conclusions on any of these facts without more detailed information than we were able to gather, two conditions seem to be worth specific comment.

The first of these is the fact that the majority of people require thermostat settings at 76° or lower in order to live comfortably. This, therefore, must influence our methods of sizing equipment. This is in contrast to industry recommendations that recommend an indoor design temperature of 80° F.

The second notable fact is that a much lower percentage of people set their thermostats at 76° or lower when they installed air conditioners in 1954 than in 1953. The more recent

installations are operating at higher temperatures than those that have been installed for some time.

It is difficult to know whether this is a by-product of experience with air conditioning and the need for lower temperatures to satisfy comfort, or whether it may be an attempt by the new user to conserve electric power until he is certain that it is not going to be too expensive, or whether it is a matter of increasing consumer education on the proper method of air conditioning as each year goes by.

If any conclusion at all may be drawn regarding the geographic analysis, it would seem that users in the southern states who have more experience with air conditioning as a class of users and who are also using their air conditioning system for more days per year tend to set their thermostat

(Concluded on next page)

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a practical approach . . . designed to give you profitable volume

HERE'S WHAT IT DOES FOR YOU

- * Assures you adequate inventory — when you need it — **WITHOUT ANY INITIAL INVESTMENT!**
- * Assures continuing promotion help **LOCALLY** to sell increased volume — **ALL YEAR ROUND!**
- * Assures you **IMMEDIATE** profit! Because **YOU SELL** **WITHOUT AN INITIAL INVESTMENT!**

CONTACT YOUR
Vornado DISTRIBUTOR TODAY
HE HAS ALL THE FACTS!

Write! wire! phone collect!

(Concluded from preceding page) and therefore to maintain temperatures at lower levels than is the case of the other regions.

2. Question No. 2 asks whether people adjust their thermostat settings as outside temperature conditions change.

The results show that 65% of the users do not alter their thermostat settings when outside temperature conditions change, 21% raise the temperature setting and 14% lower the temperature setting.

A tabulation of owners lowering thermostat setting when extremely hot temperatures prevail was made by outdoor dry-bulb temperatures. Nine per cent of the people living in a 95° temperature zone, 12% of those living in a 100° temperature zone, and 25% of those living in a 105° temperature zone, lower their thermostat setting.

The significant fact is that a sizable percentage of owners do

lower their thermostats when it gets extremely hot outdoors. This percentage of the users is higher in the high temperature zones than in the lower temperature zones.

It may be that this is a result of the fact that the air conditioners are not taking care of their demand for lower temperature comfort in extremely hot weather and the thermostat setting is too high originally.

This may, on the other hand, be a reflection of the actual variation in mean radiant temperature effect so that when the outside wall and window surfaces increase in temperature, compensating lower temperatures are required for comfort.

We might also note that a high percentage of the users are not satisfied with a 15° differential between indoor and outdoor temperatures nor are they concerned about wide temperature difference and the one-time rumored "shock effect."

3. It was found that 71% of the respondents let the thermostat operate the air conditioner automatically throughout the cooling season while 29% wait until the house becomes warm before starting the air conditioner manually.

This tabulation indicates the necessity of considering how people will operate the air conditioner in determining what allowance must be made for pick-up factors in sizing the equipment.

We have no way of knowing how many of these individuals operating their units manually may be employed families who permit the house temperatures to rise while they are at work and turn it on when they are home.

The number of users that operate their air conditioning systems automatically throughout the season shows very little variation. This would imply that experience is not a factor

in determining whether you allow it to operate automatically or not.

We also tabulated percentage of owners who operate their systems automatically by the outdoor wet-bulb design temperatures (perhaps the best index to severity of cooling load conditions).

We did find that 95% of the owners living in wet-bulb climates in excess of 78° preferred automatic operation with this figure declining to 81%, 68%, and 65% in wet-bulb zones of 78, 76, and 75°.

4. The question regarding the size of the family and number of children under the age of 10 was asked only to permit future sub-analyses of other relative conclusions.

5. In the summertime, we find that 80% of the users kept windows and doors closed whenever it is over 80° outside. However, it is worth noting that

17% do not close windows and doors until the outside temperature exceeds 85° and 3% wait until the temperature reaches 90°.

6. Sixty-five per cent of the respondents did not open bedroom windows at night. Of the one out of three who open bedroom windows at night, 44% are those who operate their air conditioners manually and 60% of them are in the 75° or lower wet-bulb outdoor design areas. Thus, the milder the climate, the more likelihood of opening windows and doors at night in air conditioned homes.

51% Kept Storm Windows on In Summer

7. The results on the question of storm windows are not entirely conclusive since we do not know how many of the users did not have storm windows for their homes.

The fact, however, that 51% of those responding kept them on does indicate a wide acceptance on the part of the public that they are useful in the summertime.

8. The question as to the size of the house and its orientation were designed to let us analyze the air conditioning unit sizes that have been installed by our customers in homes in various climates and in various types of housing, as well as to give us a better indication as to the type of home that is active in the air conditioning market in each of the periods surveyed.

9. Seventy-nine per cent of those surveyed said that their air conditioning was entirely adequate when entertaining. Twenty-one per cent, however, said that it was not adequate. The per cent of dissatisfaction was somewhat higher in the mild climate areas than in the hotter and more humid areas.

10. The question of room to room balance of temperatures and balance at various times of the day seem to be a major problem. Thirty-eight per cent of the users reported that various rooms were not at approximately the same temperatures.

Users Concerned with Cost

It is also significant to note that of these 38% expressing dissatisfaction with room temperature balance, 90% experienced this difference in temperature in the evening.

Mueller commented that the survey indicates satisfactory environment in the summertime for the average consumer closely approaches what he considers a satisfactory environment in the wintertime. This also indicates that there is one, not two, optimum levels.

A second major trend that should be noted is the concern evidenced by many users with operating costs, even though this concern is not founded on facts.

Mueller believes it is quite significant to note the very high response to its initial survey letter.

Perhaps this clearly indicates a much higher degree of awareness of air conditioning and perhaps pride of ownership in it that has not been evidenced in installation of heating equipment in the same class of homes. This might be significant in developing merchandising programs.

THIS—TODAY!

CENTRAL AIR CONDITIONERS

A MODEL FOR EVERY NEED...

to cover every residential and commercial prospect



PRE-ENGINEERED... PRE-PACKAGED

2- and 3½-H. P. Models
Twin Compressor Systems
Connect to Furnace...
Or Install as Separate System!

NEW HEATING COOLING PACKAGED UNITS

Year-round Air Conditioning
Top Efficient Operation
2- and 3½-H. P. Models

NEW REMOTE SYSTEMS, TOO!

2-, 3-, 4-, and 5-H. P. Models
Connect to Furnace, too!

PLUS YOUR OWN TREMENDOUS LOCAL ADVERTISING—SALES PROGRAM!

A DRAMATIC NEW "RENT-A-VORNADO" PLAN...

for shops, store and commercial prospects. They pay for unit just like rent!

You get YOUR money like a regular sale!

...AND REMEMBER...YOU SELL WITHOUT INVESTMENT!

The O. A. Sutton Corporation, Inc., Wichita, Kansas

Distributed in Canada by: Alliance Motors, Schell Avenue, Toronto 10



Newspaper Advertising (Selling Slant)

Most Fruitful Source of Residential Air Conditioning Sales

Says Dealer Who Didn't Fare So Well With Direct Mail Drive

KALAMAZOO, Mich.—News-paper advertising was the most fruitful source of residential air conditioning prospects last year for E. J. French of Kalamazoo Heating & Appliance Co.

"I know this," the Lennox dealer said, "because most of my prospects were people who had not purchased a furnace

yet or who owned competing brand heating equipment."

In addition to a regular newspaper advertising campaign, French also sent four to six pieces of direct mail to his furnace customer list and circularized all doctors, attorneys, and contractors.

Direct mail produced little results for him. But he is prepared to give it another whirl this year.

"The weather was against us last year," he commented. "I am looking forward to a better year this year. Acceptance of air conditioning is growing in this area."

French said that he ran his newspaper campaign on a regu-

lar weekly basis during the months of April, May, June, and July.

He placed two-column by 10-in. advertisements in the Sunday paper, preferably in the main news section. He also placed it on the television page and in the financial section. Results, however, did not indicate that one location was better than another.

"I would ask for page two or three if I could get it," he noted. "That is where the local news is. I believe everybody reads the local news."

French's advertisements were prepared from factory supplied mats. "I believe in tying in with the manufacturer's national

campaign. I think we get better impact that way," he commented.

Most of the advertisements concentrated on the benefits of air conditioning to the user. A few included some space devoted to a low cost unit, featuring price.

French looked upon this price advertising with distaste. "I don't like to advertise price in air conditioning. I don't think the consumer trusts price ads any more."

His feeling was borne out to the extent that the price appeal did not bring in any customers. He didn't sell any of the low price units.

His sales last year were divided evenly between new and old homes and about half of them involved a furnace sale along with the air conditioning.

"Inquiries came more from people moving into new homes than those already established in their home," he noted.

Uniformed Butler Helps Move Air Conditioned Homes In St. Louis

ST. LOUIS — A uniformed butler to greet guests at the door, and in-house point of sale material that was extended even to the sheathing paper that protected the floors, were part of a dealer and builder promotion that helped move air conditioned homes quickly in suburban Rock Hill.

To promote the sale of the air conditioned "Meredith Park" tri-level 7-room 2½-bath homes, Northwest Heating Co. tied in Janitrol's "Conditioned Living" promotion plan with Builder-Developer Howard Gale's merchandising stunts to lure the public out to the model house in the development.

Newspaper advertising, site signs, and the aforementioned signs on the sheathing paper kept the public conscious of the "Conditioned Living" feature, and such stunts as the butler opening the door and giving free balloons to the children accompanying the parents drew the public's attention to the project.

Result: five houses sold, three under contractor, and three ready to close on a "trade-in" basis with older homes—in the first two weeks, according to the builder.

Bryant Names East Advertising Mgr.

INDIANAPOLIS — Roy C. East has been named advertising manager of Bryant Mfg. Co., according to David W. Hop-pock, vice president and general sales manager of the heating and air conditioning organization.

East joined Bryant in 1955 as assistant advertising manager after five years with Associated Distributors, Inc., of Indianapolis, where he was advertising and sales promotion manager. He previously had been on the national advertising staff of *The Indianapolis Times*.

In his new post, East will direct Bryant's advertising and sales promotion program through the company's national distributor-dealer sales organization.

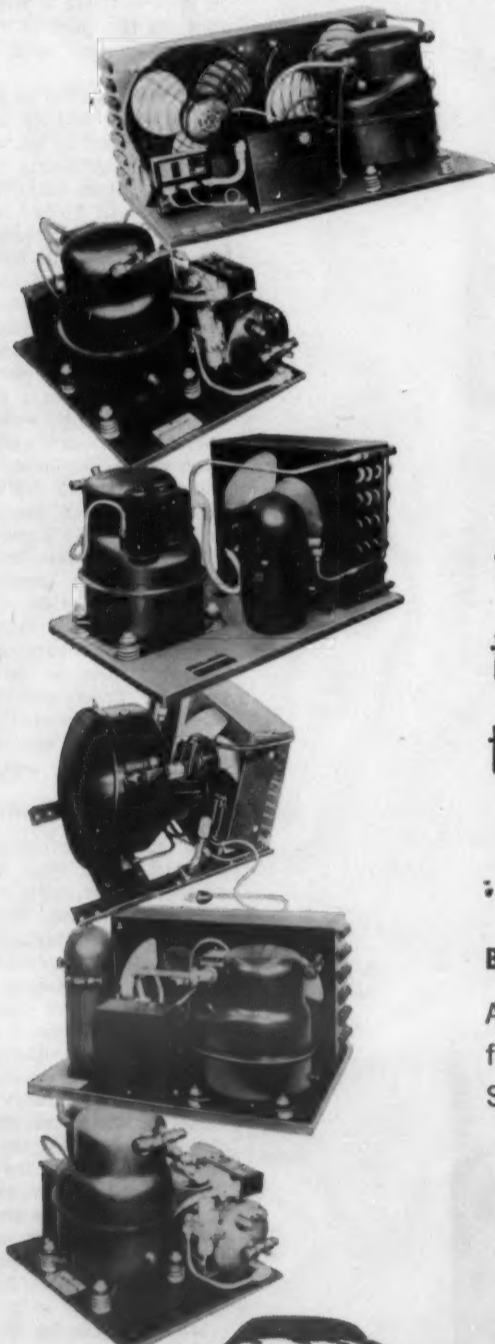
Penn Controls Forms Industrial Sales Div.

GOSHEN, Ind.—Formation of an Industrial Sales Div. under the direction of James F. Kinney was announced by H. M. Carnahan, director of sales for Penn Controls, Inc.

Kinney will assume his new responsibilities at once and will continue to direct sales activities in the pump, air compressor, and engine control fields, it was announced.

Carnahan, in announcing formation of the new division, said the rapid increase in the automation of industrial processes has already developed a large potential for the sale of electrical control devices.

Trying to find
the right man for a
hard-to-fill vacancy—
the NEWS' Classified
Ads are read by your
man.
Place your ad today!



for the **size** you need...
the **capacity** you want...
the **quality** you expect...

.....Specify **Lehigh!**

BLU-COLD HERMETIC CONDENSING UNITS

Any size, from 1/5 to 2 H.P.

for any application, commercial or industrial.

Send for new 4-page catalog sheet.



Lehigh condensing units



LEHIGH MANUFACTURING COMPANY, Division of Lehigh, Inc., Easton, Pa.
Manufacturers of Open Type and Hermetic Condensing Units and Compressors.
EXPORT DEPT.: 13 East 40th Street, New York 16, N. Y.

Travel Far To Attend 3-Day Confab On Cooling Tower Engineering

WHEN 125 Marley Co. sales engineers assembled in Kansas City, Mo., for a three-day conference, the meeting included several representatives from distant points. Len Clough (at left) of R. Werner & Co., Melbourne, Australia made the longest journey, traveling 10,000 miles to attend the short course. Don Wylie (second from left), Marley Canadian Ltd. of Toronto, and Fernando Ysunza (right), Schultz y Cia, Mexico City examine exhibits with J. A. Cameron, Marley executive vice president.



KANSAS CITY, Mo. — Programmed to present newest aspects of cooling tower engineering, Marley Co. recently held a three-day sales conference here for managers and staff members of all sales offices and directly interested personnel from all sales representative organizations handling the firm's line.

One man traveled from Australia for the conference, which was attended by 125 Marley sales engineers.

Tower design, performance, and application were all treated in a series of talks by specialists from the home office and field men. Experiences were exchanged between men from widely separated areas.

One feature was introduction of new products in a "broad range of capacities." Included were a new entry in the packaged cooling tower field, another in the intermediate capacity range, and the fully redesigned group of industrial towers to be known as class 600 "Cross-Flow" series. Marley would give no further details at this time.

A comprehensive exhibit of all new features of the company's products was on display. Included were complete towers and tower components. New materials and processes shared the interest of the visitors, Marley explains. Adaptations of inert materials for a number of uses

Frick Names Sanders Assistant Sales Mgr.

WAYNESBORO, Pa. — Frick Co. announces the appointment of John T. Sanders III as an assistant sales manager in its Refrigeration & Air Conditioning Div.

Sanders has been manager of Frick's New Orleans branch. He has had 11 years' experience in refrigeration work, partly as a distributor of Frick equipment and partly as a branch manager. His place in New Orleans is being taken by George M. Basore, formerly Frick branch manager at Oklahoma City.

U.L. & A.S.M.E.
WATER-COOLED
CONDENSERS
and
LIQUID RECEIVERS
for
EVERY REQUIREMENT
STANDARD
REFRIGERATION CO.
332 S. Hoyne, Dept. C
Chicago 12, Ill.

Write for our
NEW
Catalog

About School

National-U.S. Booklet Describes 'Everything Contractor, Wholesaler Might Want To Know'

JOHNSTOWN, Pa. — A new booklet has been issued by National-U.S. Radiator Corp. describing its air conditioning school.

It covers everything that a contractor or wholesaler might want to know in order to decide whether or not he should attend the school, the company explained.

According to the booklet, the school is open to any qualified heating or air conditioning contractor or wholesaler, and not confined to National-U.S. customers alone. The course is covered in one week, and the schedule of classes indicates a good balance between classroom lectures and practical training with actual equipment.

There is no tuition charge for the course, and general information on hotel and motel accommodations is given.

The school is staffed by 14 instructors, all specialists in their fields. It is equipped with all types of operating cooling equipment which is fully accessible to the students.

Study material, such as trade and engineering data, work sheets, plans, sales data, etc., is furnished free. A complete reference library is maintained for student use.

Copies of the new descriptive booklet (Form No. AC-963) may be obtained from the Training School, National-U.S. Radiator Corp., 221 Central Ave., Johnstown, Pa.

Worthington Buys Well Machinery Co.

HARRISON, N. J. — Worthington Corp. here announced it has purchased Well Machinery & Supply Corp. of Fort Worth, Texas.

This manufacturer of pumps, air conditioning, and refrigeration equipment said it paid 52,500 authorized but unissued common shares valued at \$2,819,198 for the property and assets of Well Machinery.

Well Machinery makes, sells, and distributes oil well drilling machinery, parts, belts, meters, and industrial supplies.

For Your Reprint Copy

"Emergency Diagnosis, Repair of Hermetic Unit Electric Components," by John L. Zant, mail this ad with your name and address to: Air Conditioning & Refrigeration News, 450 W. Fort, Detroit 26, Mich.
Only 25¢ each.

NEW FASHION IN FANS: *IM-pak

UTILITY'S *IM-pak SIMPLIFIES PRODUCTION CHANGES. This new fashion in fans now eliminates top-heavy inventories of many unassembled parts, gives you an across-the-board stock of blowers that covers up to 98% of applications for residential air-moving equipment. Available in five sizes, you'll now be able to handle model changes while in production. Convertibility is the key: The two housing supports and motor mount bracket are not attached to the unit, but are included in the package with all hardware needed for rapid installation. Simply mount the motor and adjust the angle of discharge to any of four positions, and — presto! — the job is done. No oil cups snarl service due to IM-pak's sealed ball bearings. Blowers are also available with a specially designed interchangeable sleeve bearing mount which is easily adjustable and permits rapid production-line switches to your requirements. This fast-adapting blower is another outstanding example of Utility's never-ending search for better engineering methods that pay off where it counts — in lower labor costs, reduced inventories and trouble-free service in your equipment. **YOU CAN'T MATCH UTILITY FOR PRODUCT AND PRICE!**



A Division of Utility Appliance Corp.

UTILITY FAN CORP. 911 East 59th Street, Los Angeles 1, California

MANUFACTURERS OF HEAVY AND STANDARD DUTY BLOWERS FOR HEATING, AIR CONDITIONING AND VENTILATING INSTALLATIONS. PRODUCERS OF BLOWERS AND BLOWER PARTS FOR ORIGINAL EQUIPMENT MANUFACTURERS. WRITE FOR CATALOGUE DATA.

'Let the Public Know' (Selling Slants)

Equips Trucks with 2-Way Radio To Improve Residential, Commercial Air Conditioning Service; Bases Ads on Point

DENVER—Some unusual approaches to the residential and commercial air conditioning market is paying dividends for Paul Walden, Inc., air conditioning contractor here.

Paul Walden, head of the firm, believes that the contractor should not only "use the best in business methods" but make sure that the public knows about it. Consequently, when in revamping some of his merchandising and operating methods, he equipped all five of his service and installation trucks with a two-wave microwave radio system, he made this the basis for a newspaper advertising program, which, in turn is aimed specifically at "the city's best prospects—businessmen who are most likely to be able to both appreciate and afford year-round air conditioning installation."

'1-2-3 Punch Pays Dividends'

The one-two-three punch program represents a sharp departure from anything which the Denver air conditioning contractor has used in the past, but as he had hoped, it has been paying dividends in record sales.

First, instead of using the usual type of city-wide newspaper advertising which has the disadvantage of being "spread too thin" in relation to its cost, Walden hit upon the idea of concentrating his newspaper ads in *Cervi's Journal*, a business newspaper with 20,000 prime circulation among professional men, businessmen, and their associates in the Denver area, and a "secondary" circulation of 30,000 or more among members of their families.

Inasmuch as *Cervi's Journal* is a well-founded news publication, which directly influences all channels of business in the Colorado capitol, he felt that readership would be high. In addition, through basing the appeal of his advertising on two points, both calculated to appeal to efficient businessmen, he felt that a more immediate response would be generated.

Points Up Trucks Equipped with Radio

The two points are first, calling attention to the radio-equipped service vehicles of the Walden organization, which mean an absolute minimum amount of wasted time, costs, etc., and second, inviting the customer to take advantage of "off season rates" in air conditioning and heating. Both of these, Walden points out, "makes sense" and have been



SEATED before the transmitter-receiver of his two-way radio is Paul Walden of Paul Walden, Inc., Denver air conditioning contractor, who sends messages to any of his 27-man crew operating on the firm's five trucks.

directly responsible for dozens of commercial installations during the first three months of the program.

The display ads are simple one column by 7-in. insertions, concentrated on terse, readily comprehended copy, and stressing the two points mentioned above. Repeated week after week in the business paper, they have resulted in sales to a number of offices and stores. In almost every instance, the customer telephoning in, commented with interest on the use of the two-way radio system.

'Opens Advantages'

The ultra high frequency radio equipment, operating well

above the level of police calls and taxi dispatch systems, is a clear-channel, dependable means of contact with any of 27 employees involved in installation, service, etc. Being amortized at the rate of \$106 per month, the two-way system has opened up advantages far beyond those originally expected.

For example, like other contractors who maintain a large service department, Walden, in the past has had the irritating experience of dispatching a service truck back to the same remote area from which it has just returned when two customers have called in from the same section of the city an hour or so apart. Of course, Paul Walden, Inc. had attempted to make use of telephone calls, from servicemen into headquarters, but often telephones were simply unavailable and nothing could be done about wasted miles and time.

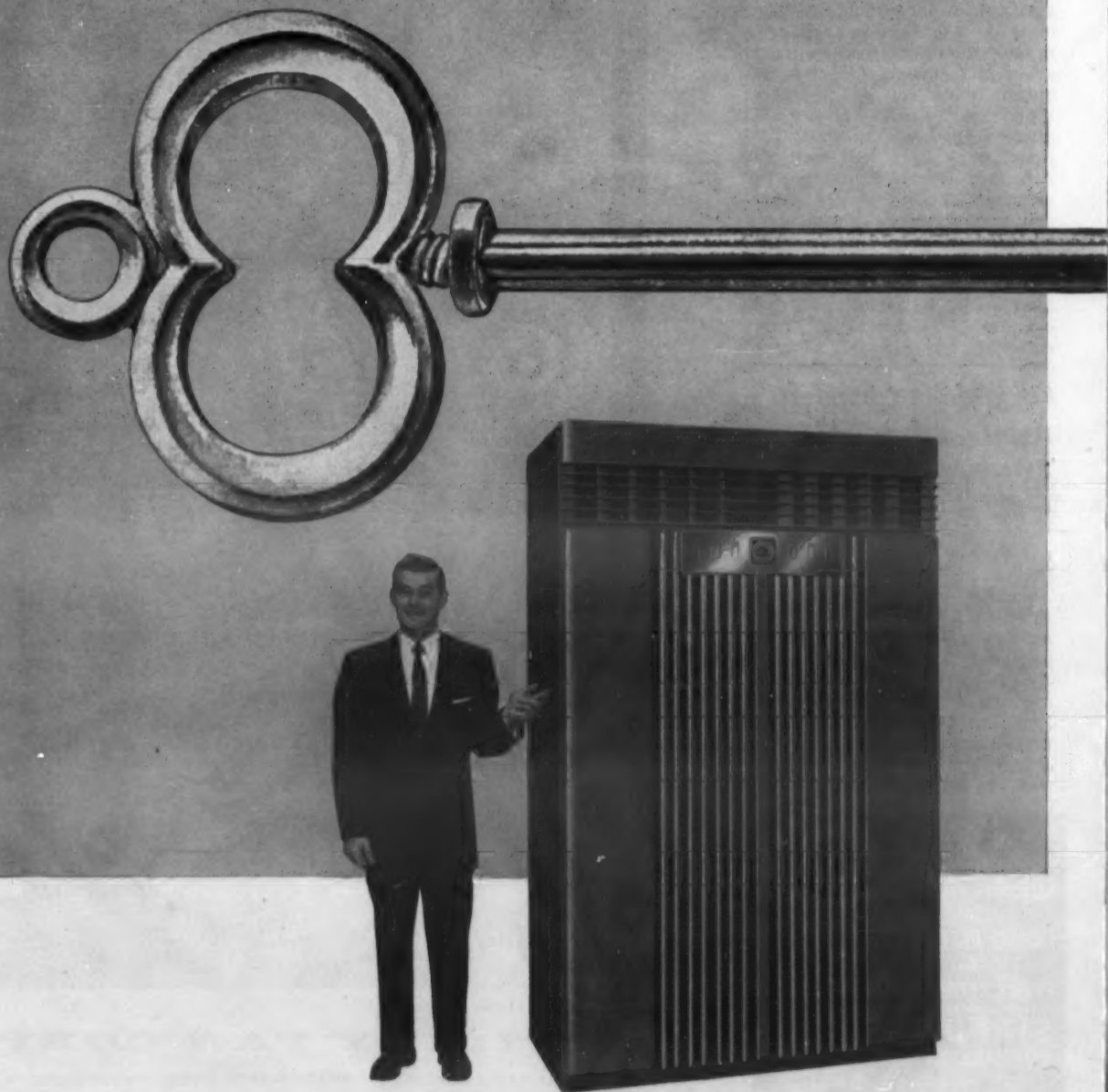
Now, a tiny red light turns on on the dash of each service truck whenever a call comes in so that even if the refrigeration mechanic is temporarily unavailable, he will check in as soon as he returns to the truck.

The amount of travel time between service and installation operations have been cut to an irreducible minimum, and there are no "back tracking" steps whatsoever.

In addition, the radio system permits either of Walden's two refrigeration engineers to help installation men solve problems "on the spot" without a temporary shut down, and a return to headquarters to discuss costs and pricing, right on the spot, even with the homeowner or office manager as the case might be. When there is a sudden need for extra tools, parts, or personnel, a few seconds on the microwave are all that is re-

(Concluded on next page)

Now—unlock your full profit-potential with American Blower Packaged Air Conditioners



Redmond

MICROMOTORS

One of largest stocks
in the world!

MARVIN L. "FERDIE" FERGUSON
FACTORY DISTRIBUTORS

CYCLO-FREEZE CORP.
6318 Cambridge, Mpls. 16, Minn.
West 9-6794

(Concluded from preceding page) have exchanged their opinions quired to fill the customer's order.

No Space Loss

Occupying a minimum amount of space under the dash in each of the five red and white service vehicles, and using only a tiny dipole antenna 6 in. high on the cab, the radio equipment represents no sacrifice in space whatsoever and with each truck identified as radio-equipped, they are effective "rolling billboards" out on the job.

A three-way microphone arrangement makes it possible for Walden, from the executive office, either engineer from the engineering and planning office, or a dispatcher out in the service shop, to talk to any truck at any time and to use a "conference circuit" where several people are required. There have already been several instances in which three or four people

on a particular engineering problem, while the mechanic stands by to act on the ultimate decision, Walden indicated.

The firm's headquarters in Denver's industrial district, has been completely rebuilt to incorporate a huge enclosed dock, which will permit for protected overnight storage for all vehicles and likewise a 50 by 75-ft. loading dock at truck-bed height, for swift, efficient, all-weather loading of equipment and parts.

"We sell service," Walden indicated, "but as is usually the case, we have found that it is necessary to first sell ourselves and our equipment to the businessman who is giving some thought to air conditioning, either in his place of business or his home, and who is the best prospect of all, since he is easily most able to afford immediate installation."

Selling Slants

Air Conditioning Prospects Made 'Fully Aware' of Dealer's Services

LORAIN, Ohio — It's pretty difficult for any prospect for air conditioning equipment in this community not to be made conscious at least once a day that the Wilson Heating Co. can serve his needs.

The chances are the prospective customer will be made conscious of it several times a day, in several different ways, because Tom Wilson, head of the dealership, decided to use just about every possible sales promotion and advertising tool available to make the public conscious of the products and services he offers.

Thus, it is possible for a prospect to be reminded of this al-

most every hour on the hour of his waking day, if one takes into account the following:

On his way to work he hears the Wilson Heating commercial on his car radio. He may well pass a new home that's being built and see the sign "Another Installation by Wilson Heating with Janitrol." If he drives by the dealer's place of business he can't miss the well lighted display and signs, including one on the top of the building.

As he starts to work he may quite likely pick up a pencil that says "Wilson Heating" and when he goes to lunch at his favorite restaurant he may check the time with a clock on

the wall that advertises Wilson Heating and Janitrol.

If he lights up a cigar or cigarette after the meal, the matchbook cover is likely to read—you've guessed it—Wilson Heating. When the prospect gets home after his day's work, he could find a promotion letter from the dealer. When he goes out in the evening, he may see the dealer's truck with its prominent signs, and if he stops to buy something in a drugstore or some other retail establishment, he may be conscious of decals on the window saying "Cooled by Janitrol."

Wilson's thoughts on the distribution of "reminder" items are like this:

Pencils—Used as giveaways at home shows and in the show room. As gifts for special functions, and to card clubs and churches.

Matches—Distribute about the same way as pencils and also sell them to drugstores at a low cost.

Clocks—Many establishments will hang a clock that is given to them at no charge. Some good spots: churches, meeting halls, club rooms, restaurants, bars, non-competitive stores.

In Cooling Div.

Embassy Names Zackin Sales Engineering V. P.

BROOKLYN — Sidney H. Zackin has been appointed vice president in charge of sales engineering in the cooling division of Embassy Steel Products here.

The announcement was made by Elliot S. Nelson, president of the company, who said the S. H. Zackin move represents

a major step forward in its diversification and expansion.

Nelson stated that Embassy will shortly announce a new line of air conditioning and cooling products. A comprehensive advertising, sales promotion, and publicity program is being formulated, and regional offices and warehousing representatives are being appointed.

In addition, Zackin is developing a sales and technical training program that will be placed at the disposal of Embassy representatives and their distributor customers.

For the past 19 years Zackin has been sales manager in charge of engineering, refrigeration, and air conditioning for Tesco Distributors in Newark.

He joined American Society of Refrigerating Engineers, the Refrigeration Service Engineers Society, and the American Society of Heating & Air-Conditioning Engineers.

Honor Pioneer L. M. Church

TRENTON, N. J. — Pioneer air conditioning and refrigeration engineer and mid-eastern regional manager for Carrier Corp., Lloyd M. Church, was honored at a retirement dinner here recently.

Among the 160 guests who paid tribute to Church were Charles V. Fenn, vice president-general manager of Machinery & Systems Div., Carrier Corp., and Hermann C. Hoffmann, general sales manager.

COMPLETE LINE

You can handle any commercial job — factory, office or store — when you install American Blower's complete line of packaged air conditioners. Comfort-engineered models, air- or water-cooled, are competitively priced . . . easy to install.

SOLD THROUGH REGULAR CHANNELS OF TRADE

Distribution of American Blower Packaged Air Conditioners follows normal channels: factory-distributor-dealer/contractor-user. Direct inquiries are referred to your supplier, who'll pass them along to you. These qualified prospects mean more business.

QUALITY PRODUCT BACKED BY ENGINEERING AND RESEARCH

American Blower has been known and trusted as a leader in air conditioning and ventilation for over 76 years. You'll benefit from our reputation for quality products, engineering excellence, and continuing, basic research. Prestige like this pays off . . . helps you build air-conditioning sales volume.

NATIONAL AND LOCAL ADVERTISING AND SALES PROMOTION

Your prospects are pre-sold by hard-hitting national advertising in leading consumer and executive magazines, backstopped by full-range dealer advertising and sales promotion at the local level. So your customers know American Blower . . . want American Blower.

TRAINING SCHOOL

You and your installers can attend classes right at our Dearborn, Michigan, plant. Two 5-day courses in the application and servicing of packaged air conditioners are scheduled regularly. Both are conducted by skilled factory engineers in modern, fully equipped classrooms and laboratories.

HOW AMERICAN BLOWER IS BUILDING FOR THE FUTURE

New models — including a full line of air-cooled packaged air conditioners — are available now to help you satisfy the varied demands of this profitable, fast-growing market. Every unit is soundly engineered and fully pretested to meet the high quality standards of American Blower products.

FOR FULL INFORMATION: Write American-Standard,* American Blower Division, Detroit 32, Michigan.

BIG LINEUP OF NEW MODELS!

COMPETITIVE PRICES!

AMERICAN BLOWER BRANCH-OFFICE ASSISTANCE!

*American-Standard and Standard are trademarks of American Radiator & Standard Sanitary Corporation.



AMERICAN-Standard

AMERICAN BLOWER DIVISION

York Names Goldsmith Sees 'Big Air Conditioning Opportunity' In Old Homes

Home Conditioning, Heating Sales Chief

YORK, Pa.—William T. Goldsmith has been named sales manager of residential air conditioning and heating, it was announced here by Robert E. Cassatt, general sales manager of packaged products for York Corp., subsidiary of Borg-Warner Corp.



Goldsmith will direct the sales of York commercial air conditioners and heating units for residential use through the company's franchised subsidiaries in the United States. Goldsmith was formerly with the Ingersoll Div. of Borg-Warner.



SOME OF the officials who late last year took over operation of the Mathes Co. are pictured along with the firm's field representatives attending a recent meeting of the Mathes Associate Manufacturers Association in Birmingham, Ala. L. to r.: John Lamson, Nashville, Tenn. regional manager; Owen Posey, Birmingham representative; John J. Hildebidle, Mathes president; George H. Childers, assistant to the president; Joe H. Langhammer, advertising and promotion director; Joe Fox, Nashville district representative.

New Mathes President Views 'Infant' Business

BIRMINGHAM, Ala.—A big opportunity for the air conditioning industry lies in the nation's "old homes," new President John J. Hildebidle of The Mathes Co., Fort Worth, Texas, told a group of dealers at a meeting here.

He spoke at the third Mathes Associate Manufacturers Association meeting held recently at the Redmont hotel.

Hildebidle, formerly executive vice president and general manager of Mathes, was introduced as the company's new president.

About 35 dealers and employees from 12 Alabama and Tennessee cities attended the session. Dealers formed the organization to promote the ex-

change of ideas and information. "We are a nation of old homes, despite the fact that in the past 10 years more than 12 million homes have been built," Hildebidle said.

More than 30 million homes have antiquated heating systems, he told the dealers, adding that in these homes lie great opportunities for year-round air conditioning systems. New heat pump systems being developed make their use in older homes more feasible, Hildebidle said.

Hildebidle said the air conditioning industry is still in its infancy. It is about where the automobile was 25 years ago, he said.

Hildebidle discussed company policy and led a question-and-answer session.

Joe H. Langhammer, director of advertising and sales promotion, discussed company advertising and promotion plans for 1958.

Hugh Grant, general manager of The Mathes Sales Co. at Birmingham, is president of the Mathes Associate Manufacturers Association. Rowland Compton, president of Rowland Compton Refrigeration Co. at Decatur, Ala. is vice president. Carl Thomas, bookkeeper for the Mathes Sales Co., Birmingham, is secretary and treasurer.

Death Notices

William J. Kihn, 66, vice president in charge of manufacturing and a director of Thatcher Furnace Co., Garwood, N. J., died suddenly recently. He had been associated with Thatcher for the last 13 years.

Chase Blum, 55, president and founder of Chase Industrial Refrigeration & Equipment Co., Reading, Ohio, died recently in Cincinnati.

Edward E. Ashley, Jr., 74, senior member of the firm of Edward E. Ashley, consulting engineers, of New York, Washington, and Amsterdam in the Netherlands, died recently at his home in Darien, Conn. A mechanical engineer, he was widely known for his work in air conditioning and other fields.

Harrison W. Marshall, 59, vice president and director of Buensod-Stacey, Inc., New York City, and one of the founders, died unexpectedly of a heart attack. A specialist in the air conditioning of multi-story buildings ever since the founding of Buensod-Stacey more than 20 years ago, he was active in the contracting services of the company.

Death also claimed **Samuel E. Lyman**, 68, a member of the research staff of Buensod-Stacey. He was an authority on the development of automatic controls for air conditioning and was one of the group of engineers and executives who founded Buensod-Stacey.

Trying to find

the right man for a
hard-to-fill vacancy—
the NEWS' Classified
Ads are read by your
man.

Place your ad today!

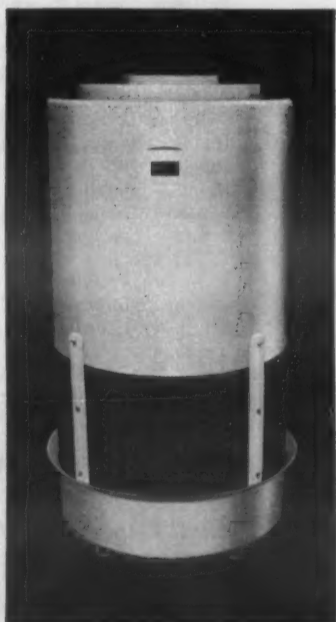


unless you use

Revolutionary
New Fiberglass

KOCH JET

COOLING TOWERS



WRITE—RIGHT NOW! FOR complete information, "spec" sheets, catalog sheets, etc.

DISTRIBUTORS! ATTENTION! A few choice exclusive distributorships are still open in certain major market areas. Contact Koch at once for this JET AGE opportunity!

KOCH
ENGINEERING CO., INC.

Koch Building
321 W. Douglas Ave.
Wichita, Kansas

Koch's Forced Draft action is as new as tomorrow! High-velocity, non-clog nozzles at the top of the tower break down water droplets into atomized particles which, in their downward thrust, create a continuous one-way piston action in displacing the air. This draws in huge quantities of air at the top... giving the Koch Jet-Action Tower a very high evaporative action. This high evaporative process speeds up BTU rejection and makes unnecessary wood slats and baffles used in most conventional "old-fashioned" towers.

NO RUST! NO CORROSION! NO ROTTING! NO COLLECTION OF CHEMICALS! New non-corrosive Fiber Glass construction eliminates all the old cooling tower bugaboos!

NO MOVING PARTS! No motors, belts, pulleys, bearings, etc. to worry about—EVER!

SO LIGHTWEIGHT that ONE MAN can lift a 7½-ton capacity tower... even install it himself. Dry weight of tower is only 67½ pounds. Towers available in 3 through 25 nominal tons.

EYE-APPEALING SATIN SMOOTH FINISH STAYS CLEANER MUCH LONGER!

KOCH
JET forced draft
COOLING TOWER

"CONTINUING PROGRESS THROUGH ENGINEERING RESEARCH"

Home Trials, Unusual Ads Boost Sales

BEAUMONT, Texas — Such things as home trials, 24-hour "spectacular" promotions, and some unusual advertising approaches have sold more package air conditioners for Gulf Hardware Co. here than any scientific discussion of cooling methods and B.t.u. capacities, the management believes.

'CONFUSED PROSPECTS'

In fact, the store management, believing that manufacturers have confused prospective customers by putting too much emphasis on "engineering" and the scientific aspect of home comfort, used newspaper advertisements carrying the headline "Are You Confused About Air Conditioning?"

Copy pointed out that Gulf Hardware Co. recommended the three lines of air conditioners which it handles, each for a specific job, and that the store would guarantee results.

The store has found that home trials are one of the best avenues to making sales, and says it has put out more than 200 units in a single season without having to pick up a single unit.

In addition to checking a prospect for a home trial through the usual credit sources, the store has some "check points" of its own for such prospects.

"We find out first whether the prospect owns his own home," says an executive of the store, "then take a look at his car if possible to see whether or not it is well maintained."

"We then attempt to size him up as a person, keeping in mind such things as whether he enjoys relaxing at home more than going out, whether he is appreciative of the nicer things that he buys for his home and family."

'SPECTACULARS'

The "spectacular" promotions which the stores conduct for 24 to 36 hours continuously are gimmicked up with entertainment, refreshment, colorful advertising and promotion. Salesmen have been dressed in pajamas for the late evening and early morning hours, and huge clocks have been painted on showroom windows. And special prices have been offered for buyers who purchase in the early a.m. hours.



MIGHTY MITE
THERMAL PROTECTORS

FOR
**MOTOR
OVERLOAD
PROTECTION**

**MECHANICAL INDUSTRIES
PRODUCTION COMPANY**
223 ASH STREET • AKRON, OHIO

Selling Slants

Plans To Use Residential Air Conditioning To Push Heating Business; Sees 1/3 More Sales During 1958

BATTLE CREEK, Mich. — With nearly 40 heating equipment dealers in this town of 50,000 population, Francis L. Murray intends to promote residential air conditioning harder this year as a competitive lever to heating business.

With that many competitors battling for the furnace business, Murray, who heads Murray Engineering Co. here, wants his firm known as one that is capable of doing a complete heating and cooling job for its customers.

Murray is recognized as one of the most active promoters of air conditioning here, though volume of sales are still quite small.

"Barring a general economic decline and with a little warm weather this spring, I fully expect to do one third more air conditioning business this year than last," he declared.

A strong factor pointing toward more air conditioning business is a change in the attitude of the electric utility.

"In the past the utility has discouraged prospects from purchasing residential air conditioning, probably because it was too expensive to bring in the additional power lines needed," he said.

"But now, they realize that they will have to bring in more power anyway to handle additional appliance loads, so they

are no longer fighting us."

Murray said that he has had little success with newspaper advertising on home air conditioning and has found the builders in this area to be unreceptive.

"They haven't been convinced yet that air conditioning will help them sell houses now," he commented.

His greatest success has been through contacting customers who have already purchased air conditioning for their businesses or who have purchased a room unit or two.

"We have sent out some direct mail—factory prepared literature—to these people with some success," he said. Salesmen have

also contacted owners of room coolers of competitive makes (Murray handles Fedders and General Electric) with limited success.

Murray's sales have been mostly add-on units in new or near new homes. New home sales arose from installing the owner's furnace and then selling him on adding air conditioning, too.

Savannah, Ga. Court Charters Cooling Firm

SAVANNAH, Ga. — Reiley's, Inc. here has been granted a charter by Superior Court Judge B. B. Heery.

The charter states that the firm will engage in the air conditioning, heating, plumbing, and sheet metal business. Incorporators: Ralph L. Reiley, Edgar F. Waller, and Edward F. White.



**NEW WAY TO SELL
COMMERCIAL
AIR CONDITIONERS**



**'58 YORK
LEASE
PLAN**
FOR SINGLE OR MULTIPLE
SPACE INSTALLATIONS



**Ups Your Sales and Profits
Because...**

**CUSTOMERS NEED MAKE
NO CAPITAL INVESTMENT!**

When you sell air conditioners the York Lease Plan Way you sell *more*, make *more* because you offer customers *more* for their money! You offer longer term than lending institutions...savings on taxes...rapid depreciation write-off...dozens of other money-saving benefits!



'58 YORK Self-Contained AIR CONDITIONERS

May be installed singly or in multiple to fit the special needs of any size or type business. No special foundations required, no need to tear the building apart. Installs quickly, easily—without interrupting business routine.

YOU GET PAYMENT IN FULL IMMEDIATELY!

When you sign up a customer, you simply turn over the lease and title to our lease company and get cash on the line in return—immediately! You never worry about slow-paying customers, bad debts, service! Call your York Distributor for full details, today!

**Your FUTURE and FORTUNE
Now Lies With York!**



1,137 Homes Air Conditioned In Cincinnati In 1957 Tops 1956 with a Rise of Nearly 10%

(Continued from Page 1)

cidentally, should not be based on this listing because their sales are included under individual contractors wherever possible.)

Another tabulation provides a convenient comparison of Cincinnati sales for the past three years.

The existing home continues as the largest market for residential air conditioning in Cincinnati, according to this survey. There were 607 existing homes air conditioned here during 1957, compared with 504 in 1956 and 359 in 1955.

New Homes Offer 'Good Market'

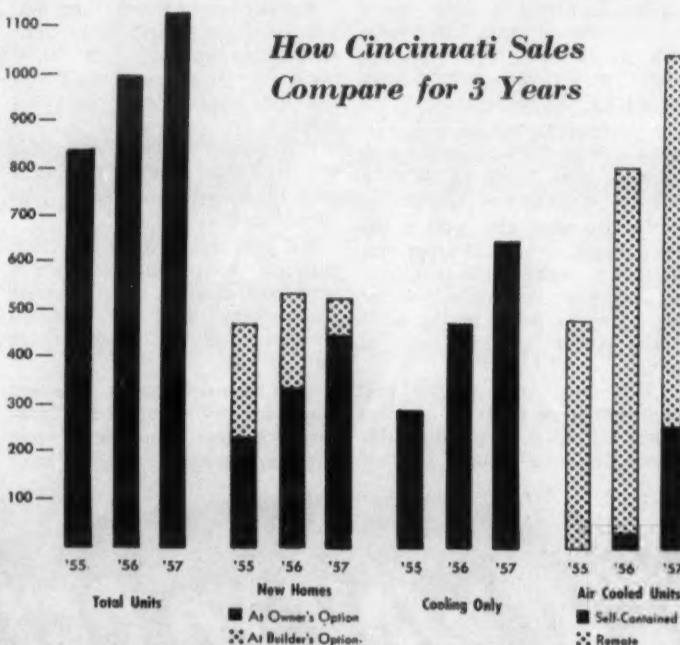
New homes provide a good market, too, but it is the owner or buyer of the house, not the speculative builder, that actually decides to have air conditioning, it would appear.

There were 444 new homes air conditioned in Cincinnati during 1957 at the choice of the owner. Like the existing home market, this category has gained steadily from 235 in 1955 and 333 in 1956.

The speculative builders' purchases of air conditioning were down sharply in 1957, however, totaling 86 units, compared with 205 in 1956 and 241 in 1955. Only one contractor and four dis-

1200 UNITS—

How Cincinnati Sales
Compare for 3 Years



tributors, in fact, reported sales of air conditioning to speculative builders in 1957 in contrast to the five contractors and eight distributors reporting such sales the previous year. Of the 1957 installations, 495 were year-round systems and 642 were "cooling only" jobs. In both 1955 and 1956 the num-

	1955	1956	1957
Total	835	1,042	1,137
New Homes			
Owner	235	333	444
Builder	241	205	86
Existing homes	359	504	607
Year-round	516	572	495
Cooling only	284	470	642
Air cooled	477	804	1,052
(Remote)	779	797	
(S.C.)	25	255	
Water cooled	323	238	85
With tower	162	128	38

ber of year-round systems exceeded the "cooling only" installations—516 to 284 in 1955; 572 to 470 in 1956. This data is not available for 1957.

Continuing trend to air-cooled equipment shows in the 1957 survey with 1,052 air-cooled jobs compared with 85 water-cooled residential units. Air-cooled jobs have gained steadily from 1954, which saw 106 such systems and 461 water-cooled systems. In 1955 it was 477 air and 323 water; in 1956, 804 air and 238 water.

Use of cooling towers has varied from 100 in 1954 to 162 in 1955, 128 in 1956, and 38 in 1957.

A breakdown between remote

and self-contained air-cooled equipment is given for the years 1956 and 1957. In 1956 there were 779 remote air systems and 25 self-contained air-cooled units. In 1957 it was 797 remote and 255 self-contained systems.

How much significance there may be in the sharp increase of self-contained units in 1957 compared with 1956 is questionable. It may indicate nothing more than comparative activity by distributors and contractors in this area. The 1957 survey of Wichita, Kan. (published in the Nov. 18, 1957, NEWS) showed fewer self-contained units than in 1956, as did the survey of Knoxville, Tenn. (published in the Jan. 20, 1958, issue of the NEWS).

33 Makes

A total of 33 different makes of air conditioners is represented in the 1957 Cincinnati sur-

vey, compared with 24 in 1956 and 19 in 1955.

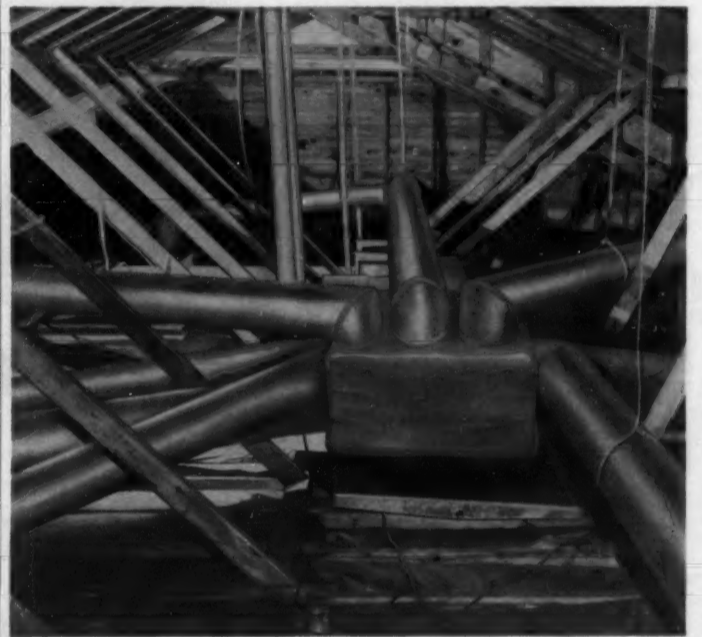
Of 1957's 33 makes 16 may be considered as "old line" air conditioning and refrigeration firms who've entered the central residential field after producing window units. These manufacturers were represented by 616 installations in 1957, or 54% of the total.

The 17 "furnace" manufacturers had a combined total of 521 installations or 46% of the total. This category has been gaining in percentage of installations, however, from 37% in 1954 and 1955 and 43% in 1956.

While no one make dominated the field, it is interesting to point out that seven "old line" air conditioning manufacturers were represented by 50 or more units apiece in 1957 but only three "furnace" manufacturers were above the 50-unit mark.

Although the over-all residen-

(Concluded on next page)



Have you tried new G-B DUCT for AIR CONDITIONING?

For a dual temperature system, or the self-contained attic units, there's *nothing* like G-B Duct — the prefabricated round air duct molded of fine glass fibers.

- It provides positive thermal insulation because walls are made of glass fiber insulation and wall thickness and density are uniform.
- It's an excellent sound absorber — a 6-ft. length of G-B Duct reduces the loudness level of duct noise by more than 50%!
- It effectively prevents condensation because it is encased in an airtight plastic vapor barrier.

G-B Duct comes in lightweight, one-piece 6-ft. sections, ready to use. No preassembly, no folding. Anyone can do a professional job without special tools — and in a minimum of time! If you are interested in a duct system that offers positive performance, foolproof installation and lower costs, see your local supplier or write for samples, prices and complete technical data on new G-B Duct . . . today!

"This is G-B Duct", a color-slide film with sound track, is available on request for dealer training programs.

GUSTIN-BACON Manufacturing Company 
218 W. 10TH ST., KANSAS CITY, MO.
Thermal and acoustical glass fiber insulations • Pipe couplings and fittings
Molded glass fiber pipe insulation

the in LIQUID EYE®
POSITIVE SEALING INDICATORS
... your sign of DEPENDABILITY and QUALITY
USE IT WITH CONFIDENCE

• Pyrex glass, double pressure sealed at sides and ends. • Positive check of refrigerant condition. • Unrestricted full line flow. • Spring-loaded gaskets insure positive seal against leakage. • Guaranteed to 500 psi. • Precision made.

USED BY LEADING MANUFACTURERS ON ORIGINAL EQUIPMENT
Sold by leading wholesalers everywhere
Write today for Catalog E-37 covering the complete Allin line

ALLIN MANUFACTURING CO.
410 N. Hermitage Ave. • Chicago 22, Illinois
Over 1,000,000 Liquid Eyes Sold to Date!

Illustrated: 200 Series, 1/2" or 3/4" female by male flange

We're Specialists In

Refrigeration **Air Conditioning** **Electric Motors, Too!**

PARTS and SUPPLIES
Over 10,000 items...most complete list in the world...
carried in stock! You'll find them all in the NEW Harry Alter Dependabook No. 167 for Fall-Winter, 1957-58.

Write on your letterhead for the **DEPENDABOOK**

The HARRY ALTER CO., Inc.
Chicago 16, Ill. New York 13, N. Y. Dallas 7, Tex. Atlanta 10, Ga.
1717 S. Wabash Ave. 134 Lafayette St. 122 Parkhouse St. 690 Stewart Ave., S.W.
FREE PARKING AND PART COUNTER SERVICE AT THESE 4 BIG HOUSES

SAVE MONEY,
time, effort by ordering
from this complete catalog.
WHOLESALE ONLY

Cincinnati Residential Survey--

(Concluded from preceding page) sales of air conditioning here. One distributor bemoaned the "too-late" shipment of his manufacturer's low-priced model to permit any substantial sales in 1957.

'Season Never Came'

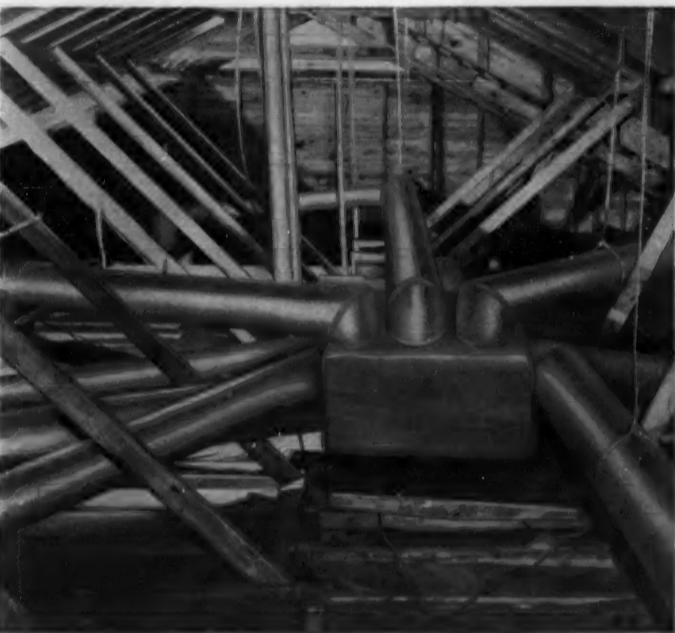
Chief cause was perhaps a relatively cool summer. As one distributor remarked, "we did a lot of 'pre-season' selling and then the 'season' never arrived." The somewhat depressed state of speculative building undoubtedly had its effect also on

Strictly local problems undoubtedly had their effect. One distributor says he was kept "on the fence" for several weeks by a contemplated change in the manufacturer's policy, which prevented his doing the kind of selling job with his dealers that was needed.

Another firm gave up its distributorship early in 1957, with the result that this particular line did not have the representation enjoyed previously.

But the majority of distributors and contractors confidently expect 1958 to be a much better year for residential air conditioning in Cincinnati.

For Your Reprint Copy
"Emergency Diagnosis, Repair of Hermetic Unit Electric Components," by John L. Zant, mail this ad with your name and address to: Air Conditioning & Refrigeration News, 450 W. Fort, Detroit 26, Mich.
Only 25¢ each.




Have you tried new G-B DUCT for HEATING?

Contractors who have will tell you that it's the answer to more satisfied customers and more satisfactory profits!

G-B Duct is the first prefabricated round air duct molded from fine glass fibers. It comes in 6-ft. sections in standard "sheet metal pipe sizes, ready to use—no preassembly required. Because it is made of insulation that is both thermal and acoustical, G-B Duct holds heat loss to an absolute minimum, eliminates duct and transmitted equipment noises. And because G-B Duct is encased in a tough, airtight plastic vapor barrier, the ductwork is "all set" if the customer decides to add air conditioning later.

G-B Duct has been approved by leading furnace manufacturers, by local building codes and is listed by Underwriters Laboratories. For more information, see your local supplier or write for samples, prices and complete technical data ... today!

"This is G-B Duct", a color-slide film with sound track, is available on request for dealer training programs.

GUSTIN-BACON Manufacturing Company 
218 W. 10TH ST., KANSAS CITY, MO.
Thermal and acoustical glass fiber insulations • Pipe couplings and fittings
Molded glass fiber pipe insulation

Residential Air Conditioning Installations—1957

Contractor	1957 Total Units	New Homes - Owner	Homes - Builder	Existing Homes	Year-Round Systems	Cooling Only	Air Cooled - Remote	S.C.	Water Cooled	With Tower	Sheet Metal Shop
1	55	30	..	25	25	30	30	25	..	..	Yes
2	40	20	..	20	20	20	40	..	..	..	Yes
3	25	5	..	20	5	20	25	..	..	..	No
4	25	8	..	17	10	15	25	..	..	..	Yes
5	23	15	..	8	23	..	5	18	..	..	Yes
6	20	10	..	10	10	10	20	..	..	..	Yes
7	20	7	..	13	7	13	20	..	..	..	Yes
8	20	5	..	15	5	15	20	..	..	..	Yes
9	18	6	..	12	6	12	15	..	3	..	Yes
10	16	2	10	4	4	12	7	..	9	5	No
11	10	2	..	8	2	8	7	2	1	..	Yes
12	10	8	..	2	8	2	10	..	..	..	Yes
13	9	4	..	5	4	5	9	..	..	..	Yes
14	9	2	..	7	2	7	9	..	..	..	No
15	7	1	..	6	2	5	5	..	2	2	No
16	6	2	..	4	2	4	6	..	..	..	Yes
17	5	1	..	4	1	4	5	..	..	..	Yes
18	5	3	..	2	3	2	2	3	..	..	No
19	3	2	..	1	2	1	3	..	..	..	No
20	3	2	..	1	..	3	3	..	..	..	No
Distributor											
A	90	70	..	20	70	20	70	10	10	10	..
B	88	20	48	20	50	38	10	78	..	..	..
C	71	31	..	40	31	40	50	6	15	..	..
D	70	20	..	50	20	50	65	..	5	5	..
E	65	25	..	40	25	40	63	..	2	2	..
F	65	10	..	55	10	55	..	65	..	..	..
G	62	30	..	32	30	32	62	..	..	..	..
H	50	25	..	25	25	25	48	..	2	2	..
I	50	10	20	20	24	26	26	..	24	..	..
J	40	10	..	30	10	30	..	39	1	1	..
K	38	18	5	15	18	20	38	..	..	..	..
L	30	5	..	25	5	25	25	..	5	5	..
M	25	7	3	15	10	15	22	..	3	3	..
N	15	3	..	12	3	12	15	..	..	..	..
O	15	5	..	10	5	10	10	5	..	..	..
P	15	12	..	3	12	3	13	..	2	2	..
Q	6	4	..	2	4	2	5	..	1	1	..
R	5	2	..	3	2	3	5	..	..	..	..
S	4	2	..	2	..	4	..	4	..	..	..
T	2	..	..	2	..	2	2	..	..	..	..
U	2	..	..	2	..	2	2	..	..	..	..
Total	1,137	444	86	607	495	642	797	255	85	38	..

Selling Slants

Offers 6-Ft. Steel Tape Premium To Bump Air Conditioning Sales

CHICAGO—"One of the most successful air conditioning promotions we have ever done was a direct mail campaign that offered a 6-ft. steel measuring tape as a premium," Bob Meyer, president of the Wilt Climate Control Co., recently pointed out.

"From that promotion we got a 10% return on a mailing to 1,000 commercial establishments on Chicago's south side."

Meyer said the promotion was carried out in cooperation with Airtemp Div. of Chrysler Corp. and the Reuben H. Donnelly Corp., direct mail and merchandising firm here.

"We sent out a three-piece mailing," Meyer said. "When the prospect sent in the return postal for his free measuring tape, our salesman would take

it to him and follow up from there."

Meyer said that his firm continually does direct mail promotion on commercial air conditioning, but the most fruitful source of new business is through word of mouth advertising.

Becomes Executive V. P.

CHARLOTTE, N. C. — A. Walton Shanklin, vice president of Ross & Witmer and Carolina Conditioners, Inc., Charlotte air conditioning firms, has been promoted to executive vice president and general manager of both firms.

CHANGE FROM 2-POSITION TO 3-POSITION (or vice versa) ... IN 30 SECONDS ...

that's what you can do with this Bulletin 800 Standard Duty Selector Switch!



Here's a single switch—the standard duty Bulletin 800—that is good for either 2- or 3-position operation. Simply loosen two screws, rotate the metal plate through 90°, retighten the screws ... and that's all. The action of the operating lever is "positive." Maintenance free, double break, silver alloy contacts are protected within the cover—careless wiring cannot cause trouble. Write for catalog.

ALLEN-BRADLEY
MOTOR CONTROL



Allen-Bradley Co., 1313 S. First St., Milwaukee 4, Wis. In Canada—Allen-Bradley Canada Ltd., Galt, Ont.

Selling Slants

Service Promoted on Radio, Not Lowest Price, Brings Air Conditioning Sales to 5-Year-Old One-Man Shop

ASHLAND, Ohio—Service is the road to air conditioning sales for Donald Carlson, one man operator in this northern Ohio town of about 15,000.

It has led him to some sizeable sales, currently a \$30,000 motel job.

"Refrigeration and air conditioning are my main business, not a sideline," he declared. "I can't afford to cut price. I must get my profit."

Thus, he explained, the customer who buys from him is not buying on price alone. His is generally not the lowest price. The assurance of local service after the sale is a weighty argument, he finds.

Carlson got into the refrigeration service business about five years ago from the electrical field. He still does a little electrical work, but that is a sideline now.

A correspondence school trainee, Carlson hung his shingle in the yellow pages of the telephone book. To his surprise, he found he was the first local man to advertise refrigeration service there. It paid off.

Now that he is more established and his competitors have found the yellow pages, Carlson finds that his best promotions are radio spots on special events broadcasts, which he uses irregularly, and his service truck.

His radio advertising is usually tied in with some local event, such as high school or college basketball or football games that get high listenership.

"Hearing our announcement on the air seems to make the name stick in people's minds," he commented. "Long after the broadcast, people will tell me they heard our announcement in connection with a particular game."

Carlson's panel truck is painted green with the company's name, telephone number, and fields of activity printed in gold black-bordered letters on the sides.

"People notice it when it goes

down the street," he declared. "Often when it is parked somewhere, someone will come up and ask me to do some work for them. Seeing the truck reminded them of a refrigeration unit needing repair."

Carlson has done some newspaper and direct mail advertising. But he does not believe they are too productive for a man operating alone.

"You have to follow up leads right away or the value is lost," he commented. "It doesn't pay if you can't handle the response."

Carlson, selling the York line of cooling equipment, does most of his volume with commercial accounts. He sells a window unit occasionally, but makes no efforts in this direction.

Not only is price a major consideration in purchasing a window unit, he believes, but "they have no more business in a home than a pot belly stove."

ASHAE To Sponsor Dallas Exposition In Feb. 1960

NEW YORK CITY—The 66th annual meeting of the American Society of Heating & Air-Conditioning Engineers and the Second Southwest Heating & Air-Conditioning Exposition, sponsored by ASHAE, will be held in Dallas, Feb. 1-4, 1960.

Registration and meeting headquarters for the society's 66th annual meeting will be the Baker and Adolphus hotels and the Exposition will be in the new Memorial Auditorium, four blocks from the hotel.

C. Rollins Gardner, Fort Worth, is the general chairman of the committee on arrangements, selected by the North Texas Chapter; host chapter for the meeting.

Headquarters hotel for exhibitors will be the Statler, which is readily accessible to the Memorial Auditorium. The International Exposition Co., New York City, is manager.

German Convention To Hear Lectures on Heating and Cooling

DUSSELDORF, Germany—A series of lectures from March 19 to 21 in Stuttgart has been organized on "Heating, Cooling, and Ventilation Techniques in Vehicles" by Working Div. III, German Refrigeration Association, the Special Heating and Airing Group with the Society of German Engineers, and the special Refrigerating Machine Group of the Society of German Machine Construction Companies (VSMA).

In connection with the 1958 convention of the Air-Technical and Drying Plants Div. of VDMA, those interested are asked to make a reservation at the division's office, Liebigstrasse 17, Frankfurt-am-Main.

First day of the lectures will cover "Air Conditioners for Passenger Cars, Buses, and Aircraft," "Problems of Drive and Control of Ventilation and Refrigeration Machines," "Relation Between Inner Space Airing and Outside Streams," "Refrigerator, Evaporator, and Air Heater and Their Installation," "Dimension of Air Lines," and "Development of a Cold-Air Vehicle Testing Stand."

On the second day lectures will be delivered on "Climatization of European Railroads," "Heat Penetration Through Glass Panes," "Ventilation of Vehicles," "Inspection of Climatized Vehicles," and "Inspection of a Wind Tunnel for Vehicles."

Open discussion will take place the third day in technical committees of VDMA's Air-Technical and Drying Plants Div.

SUBCOOLED LIQUID FEED AT CONSTANT PRESSURE AND SUCTION TEMPERATURE

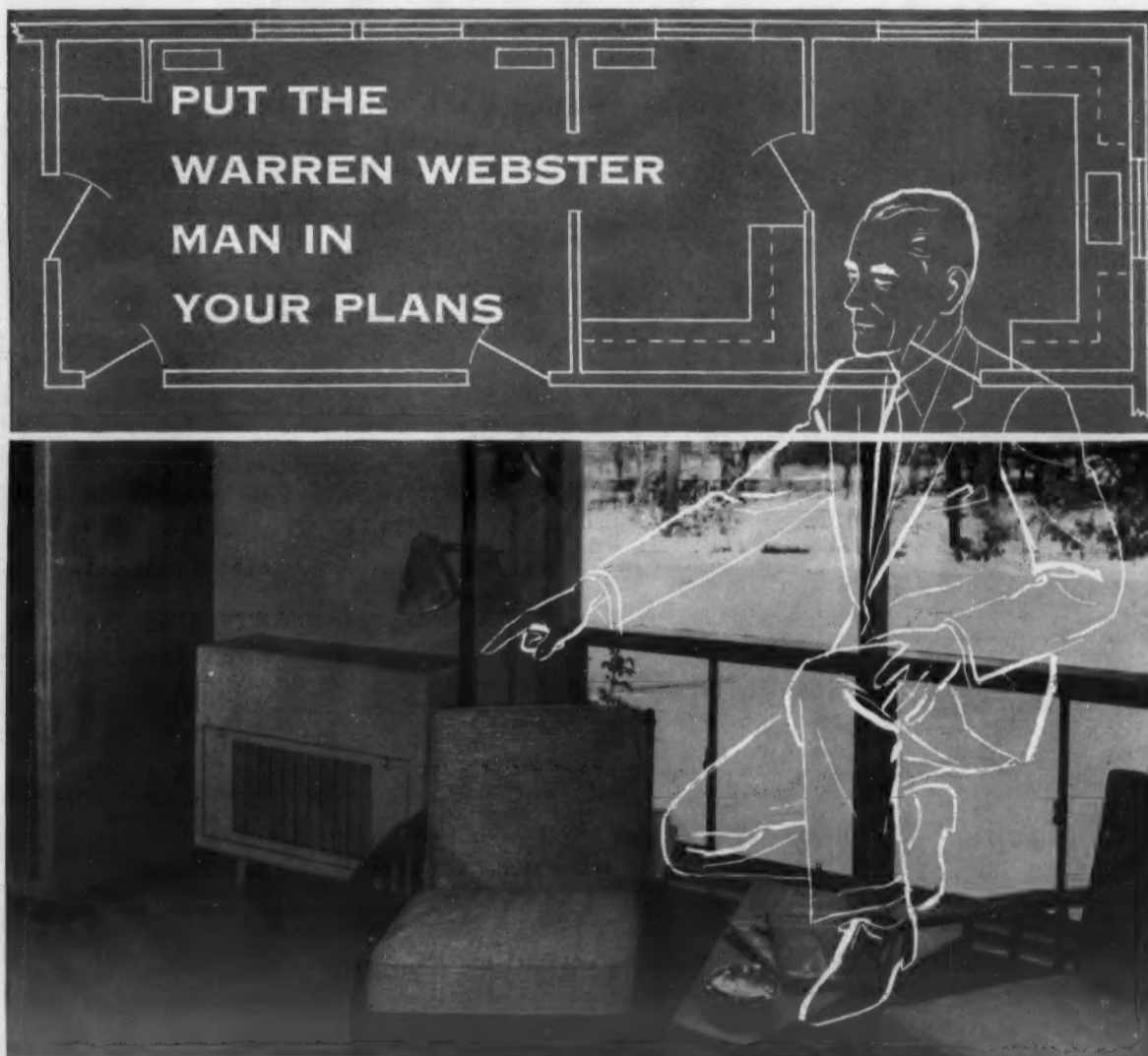
For any refrigerant. Feed pressure adjustable.

WATKINS PRESSURIZED PLANTS

INCLUDES COMPRESSOR PROTECTION.

Write for Bulletin CC-1

J. E. WATKINS CO. MAYWOOD, ILLINOIS



Now You Can Have Newport Comfort... Winter or Summer

It's winter outside . . . but the handsomely-styled Webster Newport Air Conditioner isn't idle. It's working quietly, efficiently, to provide comfortable, even heat in this doctor's reception room.

The new through-the-wall Webster Newport Conditioner offers complete flexibility — air conditioning in the summer, plus the winter-long comfort of modern central-system HYDRONICS heating, using hot water or steam.

What's more, here's complete thermostatic control, winter and summer, at each unit . . . and no window obstruction. All this for less than a central chilled water system . . . less than an air system using ducts. In three capacities, same-size cabinet. Units for cooling only, if desired.

Talk it over with your Warren Webster Man. Or write us for Bulletin B-2020. Warren Webster & Company, Camden 5, New Jersey. Since 1888. Offices in principal U.S. cities and Canada.

WEBSTER'S
FINEST
PRODUCT



the Warren Webster Man

WARREN WEBSTER
HEATING... COOLING

Service & Customer Relations Dept.

Fedders Holds Distributor Training Seminars Around Nation This Month

MASPEETH, N. Y.—The newly-formed Service & Customer Relations Dept. of Fedders-Quigan Corp. this month is conducting a series of training seminars for its distributors throughout the country.

Four regional seminars were scheduled by A. F. Agovino, department manager, beginning March 6 in Atlanta. This is the first time the department, created in December, will meet with the service managers and service personnel of the various wholesale distributors on a formal basis.

A new 141-frame, 35-mm. film strip, produced by Fedders to aid in the training of servicemen, is the key to the meetings. Some of the points the film covers are: installation of window, wall, "Adaptomatic" residential and the new remote system air conditioners; the servicing of all these units; proper application; calculation of cooling loads and heating requirements; and the field charging of the air conditioners.

A 44-page book, with reproductions of the film strip photographs and accompanying explanations, has been published for reference and home study. Also prepared by the department is a copy of the narrative to be used during the presentation of the film.

A package of the film strip,

Develops Pocket-Size Air Velocity Calculator

MICHIGAN CITY, Ind.—A new pocket-size "Air Velocity Calculator" was recently developed by F. W. Dwyer Mfg. Co. here for use by air conditioning, heating, and ventilating servicemen and installers.

Two-color, this plastic calculator measures 3 by 8 in. It compresses technical information into what is claimed to be easy-to-read form.

Front of the sliding scale shows air velocity corresponding to impact pressure from .01 to 10 in. of water compensated for air density. Back provides a means of determining exact air density with corrections for relative humidity dry bulb temperature and barometric pressure.

The small rule gives all information usually supplied by conventional air velocity charts, Dwyer says. It has claimed advantages of individual problem settings and direct readings. Values appear in small transparent windows.

Distributor's Ad Boasts:

'Proud of Companies We Cool'

BROOKLYN—Apparatus Distributors, Inc., General Electric Co. wholesale distributor here, recently took a full page in a New York City daily extolling the virtues of G-E air conditioning equipment and pointing out that "We're proud of the companies we keep cool."

Apparatus Distributors pictured pins on a map showing the approximate location of these units.

the narrative, and study books, is being made available to distributors for dealer training sessions. Representative models of the 1958 Fedders products are used at the seminars for practical instruction.

In addition to Agovino, three other members of the Service & Customer Relations Dept. are conducting each meeting: Fred Tiedeman, assistant manager; Sil Thompson, field service manager; and Jerry Schweitzer, technical writer. Also, the individual regional service managers are attending the seminars held in their respective districts.

The meeting in Atlanta was held March 6-7 at the Hotel Dinkler Plaza. The schedule for the other seminars: March 10-

Plug for Hydronics Heating-Cooling



GETTING IN a plug for hot water and steam heating and compatible cooling systems during a radio interview with Eleanor Hansen, WHK-HBC director of women's activities, is Walter Lige, president of Cleveland Better Heating-Cooling Council. Radio and TV publicity is one facet of the Cleveland unit's promotion program to boost hydronics sales.

11, Hotel Adolphus, Dallas; March 24-25, Hotel Sheraton McAlpin, New York City; and March 27-28, Hotel Congress, Chicago.

18 Atlantic City Motels Conditioned By 530 Tons of Chilled Water Units

PHILADELPHIA—Aires Co., local Acme Industries, Inc. representative, is proud of the job its outlets have done air conditioning 18 motels in the playground—Atlantic City, N. J.

Installed in the 18 motels is a total of 530 tons of Acme chilled water air conditioning equipment, Aires explains. There are 32 "Flow-Cold" packaged chillers of which four are 10-hp. units, 14 are 15-hp. jobs, and 14 are 20 hp. Along with that, there are 20 Acme cooling towers with these units to recirculate condensing water.

Benjamin E. Labov & Sons, Atlantic City contractor, made the installations in the Continental, Coronet, Carolina Crest, Saxony, John's, Nautilus, and Seville motels.

Harry Davidson, another Boardwalk City contractor, put in the air conditioning equipment at the Embassy, Algiers, Riviera, Diplomat, Eastbourne, and Monterey motels.

John H. Moore & Son, still another contractor there, installed units in the Golden Gate, Seaside Terrace, and Samson.

Equipment for the Driftwood motel was installed by Daisy C. Lewis Co., contractor in the oceanside resort, while the units for the Seacomber were put in by Afco Plumbing & Heating Co. of Philadelphia, it was explained.

Representative of the equipment is that of the Coronet motel. It consists of two 20-ton Flow-Cold packaged liquid chillers and a 40-ton Acme "Flow-Mizer" cooling tower.

Are You Paying Premium Prices For Your Pipe Wrapping?



Now...cut costs, reduce inventories and profit more with the one standard insulation that fits every pipe and fitting, meets every service requirement!



NoDrip Tape means more profit, less work on every job... saves you time, labor, material. NoDrip Tape eliminates most multiple wrappings needed with thinner wraps... inferior wraps.

Why pay more when you can buy the handy 16 foot roll of 1/4" thick NoDrip Tape at less than half the cost of a roll of ordinary 1/2" wrapping...and far below the cost of pre-formed foam cellular insulations?

Next time an equipment cold line job

calls for permanent protection against condensation drip, "sweating" or frost, insist on using NoDrip Tape. Stops rust and corrosion, too... holds temperatures more constant and increases the efficiency of the cooling equipment.

NoDrip Tape is pliable, cork-filled and completely self-adhering. Easy to work with... forms an air-tight, 100% vapor and moisture proof jacket. Needs no tools, vapor seals, fasteners, brads or adhesives.

NO DRIP PLASTIC COATING... PROTECTION FOR BIG AREAS



For large pipes, tanks, air ducts, we recommend NoDrip Plastic Coating for permanent protection from condensation, rust and corrosion. Another fine Mortell refrigeration product, NoDrip can easily be applied by brush or trowel to metal, concrete, brick, plaster, tile or composition surfaces.

JW Mortell COMPANY

Makers of Mortite Caulking Cord and Mortite Caulking Gum

Easier to Apply...

EVEN AROUND JOINTS, TEES, VALVES OR ANGLES



J. W. Mortell Company, Dept. 3
572 Burch St., Kankakee, Ill.

O.K. I send me full information about the complete line of Mortell refrigeration products.



I'm a Jobber Dealer Serviceman
Name _____
Firm _____
Address _____
City _____ State _____

Make any air conditioning
prospect your
customer . . .
and save installation
time with



Armstrong "Frigipak"

Save up to 9 hours on every air conditioning installation with Armstrong's "Frigipak" the world's easiest-to-install air conditioner

You don't have to waste time soldering connections . . . fact is you have no on-the-job assembly at all with "Frigipak" air conditioners. "Frigipak" units are completely factory-assembled, ready to set-up and go!

You can make nearly any air conditioning prospect your customer, be-

cause versatile "Frigipak" fits nearly any residential or commercial building. "Frigipak" can be used as a single unit or as a split system and this flexible air conditioner comes in a full range of sizes.

Find out all about revolutionary Armstrong "Frigipak" air conditioners today. Just call your nearby Armstrong wholesaler. He'll show you how you can cut operating costs, take fewer business risks and make big profits in air conditioning with the Armstrong "Frigipak."

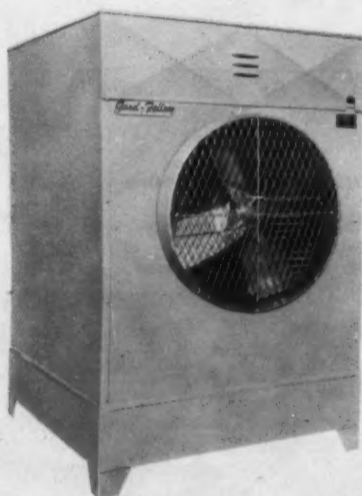
ARMSTRONG FURNACE COMPANY

Columbus 8, Ohio

Division of NATIONAL UNION ELECTRIC CORPORATION

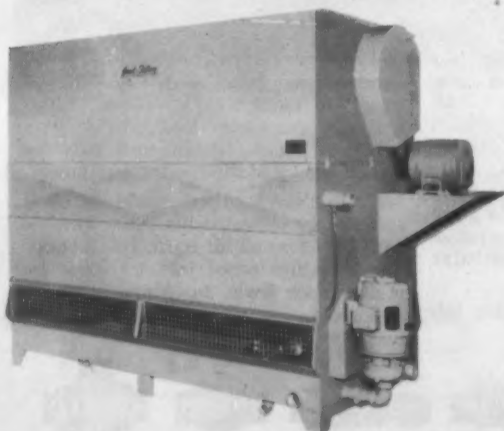


Good-Fellow COOLING TOWERS



P series: 15 models 2 to 120 tons. Models 15 to 120 are tak-a-part construction.

HOT DIPPED GALVANIZED after fabrication for maximum corrosion resistance. ZINC coated fans that are really QUIET. Trouble free mechanical equipment. INLET and OUTLET louvers to prevent splash-out and eliminate drift, on P series.



CF series: 13 models, 3 to 100 tons. Available with any type of air inlet and/or air discharge, also with or without pump mounted.

Contact our nearest representative or write the factory direct for complete information on America's finest Cooling Towers.

E. D. Goodfellow Co., Inc.

496 E. BODLEY ST.

MEMPHIS 6, TENN.

'Sales College' for Air Conditioning

Flexible G-E Field Training Plan Designed To Give from
3 to 30 Hours Training In Home, Commercial, Industrial Selling

BLOOMFIELD, N. J.—A "Sales College" program to help build and maintain enthusiasm of salesmen was announced here recently by E. H. Norling, manager, Sales Training and Personnel, General Electric Air Conditioning Div. The Sales College program was established as a thought-and-action stimulator to accent selling in the face of a national economic recession.

Called ACD Sales Plan No. 9, the program is available to G-E branch managers, distributors, and dealers for the training of retail salesmen of residential, commercial, and industrial air conditioning.

FLEXIBLE CONTENT AVAILABLE

The 1958 curriculum consists of a flexible plan of from three to 30 hours of instructional sales education, depending upon the extent and intensity of the program determined by the individual distributor or dealer. It is suggested that for multi-line dealer handling all G-E Air Conditioning products covering all three markets there is sufficient material for a 30-hour sales college to include:

1) Home Heating and Cooling, and Air-Wall; 2) Commercial and Industrial Packaged Air Conditioners; 3) Weathertron (heat pump).

Five courses are divided into a number of individual subjects constituting a total of approximately 30 complete sales education meetings, each running from 30 minutes to 1½ hours:

1) **Basic Selling Fundamentals.** This first part of the course consists of a package of four sound films, running a maximum of three hours. The fundamentals considered are the five buying motives which explain why people buy; where and how to find prospects; the making of the sale, including the sales approach, presentation, and demonstration as well as meeting and handling objections and closing the sale.

Getting special attention in this first section of the education program is a part called "The Bugaboo of Price," which describes "pencil selling" wherein the salesman, using a pencil and pad, figuratively puts a price tag on each specific difference in his product's features, advantages, and benefits which the other product does not have, to make up for the specific dollar difference in the two prices.

2) **Home Heating and Cooling.** This second portion of the course deals with the sale of the G-E heating and cooling units for home installation. Of special interest here is the "Veep," or visual presentation as a selling tool.

3) **A six-hour course in selling Weathertron,** includes time-tried-and-tested selling techniques, including the above mentioned "pencil" selling.

4) **The fourth phase of the sales college is 12 hours in length and consists of a complete sales education course including sound slide films, sales training manual, visual presen-**

tation, and quiz sheets. This portion of the program is pointed towards selling in the industrial market.

5) The fifth portion of the scheme is a three-hour course which deals with multi-line "buyer-seller" sales situations. Practice situations are emphasized.

METHODS STRESSED

The method of conducting the sales college and its success depends largely upon three factors, according to a G-E spokesman. It is recommended that each sales college meeting should be planned and organized to cover those subjects and products in which the dealer and his salesmen have a direct interest and responsibility. A "leader's guide" describes in detail how to conduct each meeting.

All instructional aids are enlisted to achieve maximum effectiveness in presenting each subject of the meeting. For example, in addition to the slide films provided in the package, the visual sales presentation aids, such as the "Veep" and other selling aids, are to be used as training tools. Take-home pieces, specification sheets, and literature are provided for reference purposes after each meeting.

Each meeting is specifically designed to be conducted by

a qualified sales educator—in other words, someone who has had some experience in conducting a sales training meeting, such as a sales manager. However, with a little practice, it is suggested, any good salesman responsible for dealer sales can conduct a satisfactory sales education meeting. The sales educator is the key man in the sales training set-up in any organization.

The "teacher" has an unusual opportunity to help salesmen in developing local markets for air conditioning and in increasing the sales and profits of the company. A sound knowledge of air conditioning products, as well as successful experience in selling air conditioning will help to command the respect of the group, and to answer questions. It helps the instructor to discuss air conditioning salesmanship in practical and specific terms, rather than in indefinite generalities.

Small training groups are emphasized. The training group should consist of not more than 20 members—15 would be better, according to published instructions—since the purpose of these meetings is to provide practical sales training.

Advantages of a small group
(Concluded on next page)

EXCLUSIVE NEW KMP KAP-KIT

...the Complete Capillary
Replacement Assembly

Plus STRAINER-CAPILLARY
FAMOUS KENMORE
MOISTURE MAGNET® DRIER
... ALL IN ONE UNIT

- NO GUESSWORK... NO CUTTING
- PROPER CAPILLARY FOR UNIT SPECIFIED
- AMPLE CAPACITY MESH STRAINER AT INLET
- PLUS KMP MOISTURE MAGNET

Now KMP KAP-KIT gives servicemen a complete, tailored assembly for replacement in the field... the proper size drier for the capillary. KMP KAP-KIT provides precision metering control for all refrigerants and has the drier in the proper location used by all leading manufacturers—The LOW SIDE. When drier is placed in refrigerated position at the end of the capillary, desiccant adsorbs more moisture and, more important, retains the moisture. Insist on Exclusive KMP KAP-KIT... a strainer assembly, Moisture Magnet of spun copper (in all popular sizes), plus flare nuts and bonnets... uniformly produced at lowest cost.

This assembly can be used with either Freon 12 or Freon 22.

Write today for information and prices.

KMP

KENMORE MACHINE PRODUCTS, INC.
LYONS, NEW YORK

U. S. Patents RE. 22,465 and 2,430,692



Air Conditioning Sales College--

(Concluded from preceding page)

are that it permits audience participation; discussion; exchange of selling ideas; learning-by-doing "mock sales"; role-playing buyer-seller situations in which the members take part in typical prospect approaches, presenting sales features in terms of buying motives, benefits and advantages, making demonstrations, and attempts at "closing the sale."

ORGANIZATION DESIRABLE

Since there are 30 complete sales education meetings in the sales college, the sales education program is completely flexible and can be adjusted to the type of territory and to the particular dealer set-up.

There are several suggested methods for organizing the classes. Dealers and their retail salesmen can meet in the dealer's place of business, or the distributor can hold localized meetings at strategic points in his territory. The sales college can be conducted in a number of different ways, such as:

1. **A Selective Specialized Sales College.** With this plan the dealer or distributor selects only the particular subjects needed to cover the specific products handled by a franchised dealer. For example, he may handle only Home Heating and Cooling products, or possibly only gas furnaces and home cooling units. He may handle only packaged air conditioners.

It is recommended that the 3-hour course on basic selling fundamentals be included in every specialized program where a single-line account is involved, or a multi-line account.

2. **A One-Class, One-Week "Sales College."** This is the complete 30-hour program where the salesmen attend a one-week college with six hours instruction per day, scheduled for each of five consecutive days.

3. **A Five-Class, One-Day-a-Week, Five-Week program.** This plan is identical with Plan 2 except that the meetings for

study are held one whole day each week for five weeks.

4. **A 10-Consecutive Night Sales College.** This is the night school program during which the salesmen can meet for three hours each night, five nights a week for two weeks.

5. **A 10-Night, Two-Nights-a-Week program.** In this program the salesmen attend only two nights a week with each session a three-hour period. This is a five-week program.

APPROVAL AND SUPPORT NEEDED

G-E officials contend that to conduct a successful Sales College it is necessary to have full and enthusiastic endorsement and support from every responsible person in the organization, including top management. No sales instructor can "go it alone." He will need approval of proposed expenditures for materials and aids necessary to conduct the meetings. He will need it again in initiating the program. He will need it to secure participation and cooperation.

RESULTS MUST BE MEASURED

Evaluation and follow-up of a sales education is a needed but not easy task because of the many intangible factors involved. However, it should be attempted if objective evidence and corrective action is to be obtained and maximum benefits from the program are to be achieved, it is stated. Increased sales volume is the ultimate objective, but usually there is a time lag between training and improved productivity.

One practical suggestion for follow-up is to get "success stories" by having each graduate of the college write in describing a sale he has made using information and techniques learned at the college. Another effective method of follow-up is the formal survey, where each graduate is asked to fill in and return a questionnaire containing points of effectiveness of the college.

SLANTS on Service

How Bad Water Affects Water-Jacketed Units

Certain models of Copeland motor-compressor units intended for water-cooled applications are cast with water jackets to help cool the motor end of the unit. When bad water conditions exist, the jackets may become blocked with scale, which can result in cycling on the overload and possibly lead to a motor burn-out.

A rectangular plate on each side of such units covers the jackets. Ribs in the casting provide somewhat narrow passages in the jackets to insure good water circulation.

Usual piping arrangement brings condensing water first into one jacket then into the second jacket. From there it goes into the condenser. On systems employing a cooling tower, a separate by-pass water line to the compressor jackets is sometimes provided.

Clogging of the jackets with scale becomes quickly apparent when the jackets are piped in series with the condenser but may go unnoticed when the by-pass arrangement is used.

When bad water conditions

are known to prevail and scaling is known to occur, it is advisable to clean the water jacket passages periodically. The jacket cover plates can be removed readily without opening the refrigeration system and the scale scraped out of the water passages with a wire brush.

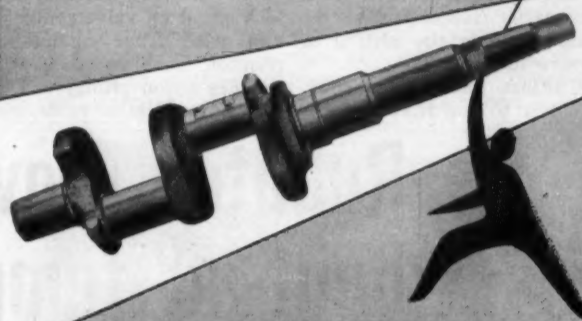
Remington Names Leonard

AUBURN, N. Y.—Remington Corp. announces the appointment of Thomas G. Leonard as assistant export manager and Vincent A. Lopez as export traffic manager of the corporation.

SHAFTS by MODERN

Shafts by Modern now power compressors for the leading lines of commercial refrigeration and air conditioning units. For precision SHAFTS, in quantity, consult us. Send blueprints for quotation.

SINCE 1924...



Modern Machine Works, Inc.

Pioneers in Shaft Manufacture

5354 S. KIRKWOOD AVENUE

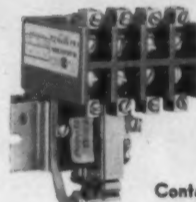
CUDAHY, WISCONSIN

FURNAS ELECTRIC CONTROLS for EASY INSTALLATION—BETTER OPERATION...



Magnetic Starters

Magnetic Starters in 10 choices up to 100 horsepower. Furnas Starters for control of compressors offer the exclusive Furnas "in-between" size starters with dual voltage magnet coils. Constructed of the best material, these controls assure long, trouble-free operating life.



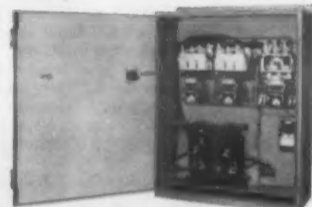
Contactors

Furnas contactors feature 20, 30, 35, 40 and 50 ampere sizes to match starter requirements. Silver cadmium oxide contacts for longer life. Floating armature insures quiet operation.

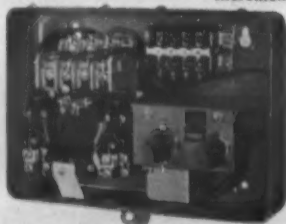


Increment Starters

Step or Cushion Starting permits the use of larger motors by limiting the inrush current on starting. These methods reduce or completely eliminate objectionable line disturbances due to full voltage across-the-line starting. Furnas Electric offers a complete line of Increment, Auto Transformer and Resistance-type Step Starters.

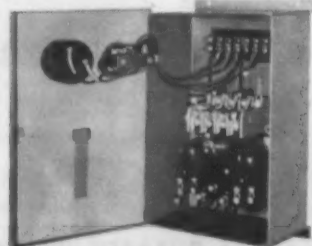


Auto Transformer Starters



Special Controls

Control panels for special applications such as Bulk Milk Coolers and Air Conditioning group all controls to simplify wiring and provide a single compact unit. Let us help you solve your special control panel problems.



Bulk Milk Cooler Control Panel

For full information on our entire line of Air Conditioning and

Refrigeration Controls, write for Bulletin 5610, 1111 McKee Street, Batavia, Illinois.

A45

FREE BULLETIN

tells how

ANEMOTHERM Air Meter

saves in balancing air conditioning, heating and ventilating systems

The Model 60 Anemotherm Air Meter, developed by the Anemostat Corporation of America, gives you—in one convenient instrument—a simple, rapid method of balancing and checking any air system. It puts at your fingertips, by means of color-coded pushbuttons, air velocity, air temperature and static pressure. • The Anemotherm Air Meter pays for itself through time saved on only one major job. Write for Bulletin 55 giving all the facts.

AC 1338

ANEMOSTAT CORPORATION OF AMERICA
10 EAST 39th STREET, NEW YORK 16, N. Y.



FURNAS ELECTRIC COMPANY
BATAVIA, ILLINOIS

SALES REPRESENTATIVES IN ALL PRINCIPAL CITIES

Servicing Automobile Air Conditioners

(Vol. 2)

BY C. DALE MERICLE

The Cadillac auto air conditioner is the fourteenth make to be discussed in this series. Makes previously described were A.R.A., Artic-Kar, Frigette, Frigikar, Kauffman, Mark IV, Airtemp, Mobilette, Novi, Vornado, Polar-Temp, American Motors, and Buick.

Cadillac (4)

Cadillac Motor Car Co.
General Motors Corp.
Detroit 32, Mich.

Adjusting By-Pass

It may become necessary to adjust cable connection to the by-pass valve or the setting of the valve itself.

To adjust cable connection, first check to see that cable is

not kinked and operates freely. Then disconnect return spring on valve control arm. Place "Temp" control lever on instrument panel in extreme left (coldest) position.

Disconnect cable from valve control arm and loosen cable clamp on valve bracket. Loosen lock screw on valve control arm, and with lever against stop, position cam so that it just touches nylon plunger. Tighten lock screw, replace cable, tighten

clamp, and re-install return spring.

If the by-pass valve is operating properly and correctly adjusted, it should maintain a suction pressure between 29½ to 30¼ p.s.i.g. with the engine operating at 1,500 r.p.m., the "Temp" control lever in its coldest (extreme left) setting, and the "Air Cond" lever set at "low."

To adjust valve to obtain this pressure, remove return spring and cable, control lever, and nylon plunger.

Turning the adjusting screw of the by-pass valve clockwise increases suction pressure; turning it counter-clockwise decreases suction pressure.

Turn the adjusting screw only ¼ turn and allow time for gauge to settle before turning the screw farther.

Trouble Chart

If the owner complains of insufficient cooling on a 1957

Cadillac conditioner, first step is to check air flow.

Low air flow—blower not operating.

Check for blown fuse, defective blower switch, broken wire, loose connection, defective blower motor.

Low air flow—blower operating normally.

Check for loose flexible hoses, restriction in air ducts, evaporator air valve partially closed, leak from discharge duct.

Low air flow—ice blocking evaporator.

Run performance test. If evaporator pressure is too low, the coil may ice up. Adjust by-pass valve.

Normal air flow.

If air flow is normal, run performance test to determine whether the discharge air temperature is normal or too high.

Normal air temperature—normal head pressures.

Check for air leaks through dash or from heater or defroster.

Normal air temperature—high head pressures.

Check for restricted air flow through condenser, air in system, excess refrigerant in system, restriction in high side of system.

High air temperature.

If discharge air temperature is high and bubbles appear in sight glass, a second performance test should be run at lower engine speed to obtain 35 p.s.i.g. evaporator pressure.

Bubbles in second test.

If bubbles appear in second performance test, system is probably low on refrigerant. Check for leaks, repair, and add refrigerant. If bubbles still appear in sight glass, check for restriction between condenser and sight glass.

No bubbles in second test.

If no bubbles appear in sight glass during second performance test, compare evaporator pressure with that listed in performance chart.

Evaporator pressure normal.

Clamp by-pass hose closed. Re-run performance test. If evaporator pressure pulls down to 10 p.s.i.g. or lower within two or three minutes, there is restriction in flow of refrigerant to evaporator. If there were bubbles or only gaseous refrigerant in sight glass during this test, restriction is between condenser and sight glass. If there were no bubbles in liquid in sight glass, expansion valve is either plugged or defective.

Evaporator pressure high.

Re-run performance test. At end of test, clamp off by-pass line hose. If evaporator pressure drops, refrigerant is being by-passed.

Evaporator pressure low.

Ice may be forming on evaporator. Re-adjust by-pass valve. If there's still insufficient cooling after evaporator pressure is normal, follow procedure listed under "Evaporator Pressure Normal."

Evaporator pressure drops.

By-pass valve is either improperly adjusted or stuck open. If valve can't be adjusted to obtain correct evaporator pressure, it must be replaced.

Evaporator pressure doesn't drop.

If evaporator pressure doesn't drop, this condition may also be accompanied by high head pressure or normal or low head pressure.

High head pressure.

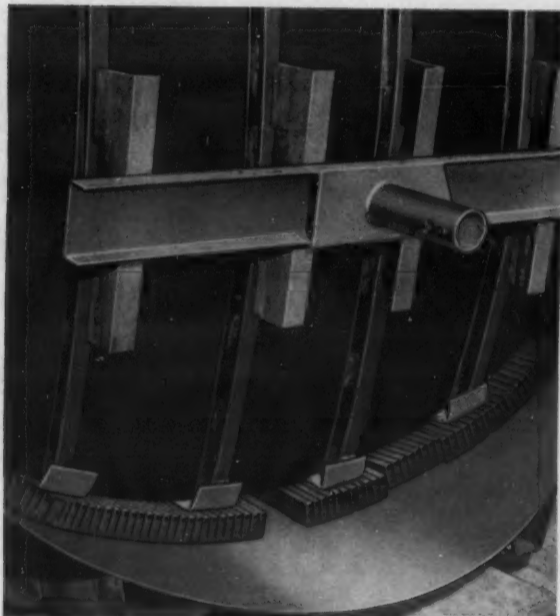
Check for bugs on condenser, air in system, excessive refrigerant, restriction in high side.

Head pressure normal or low.

Either the expansion valve is allowing too much refrigerant to enter the evaporator or the compressor is not pumping to full capacity. Run the system at 1,000 r.p.m. engine speed and clamp shut both by-pass hose and liquid line hose between sight glass and evaporator. If compressor is pumping at full capacity, evaporator pressure will drop to approximately 20 in. of vacuum in two to three minutes with the expansion valve stuck open or otherwise defective.

(Chevrolet auto air conditioners will be discussed in the next instalment.)

Rubatex provides "built-in" temperature control—sanitation—additional payload!



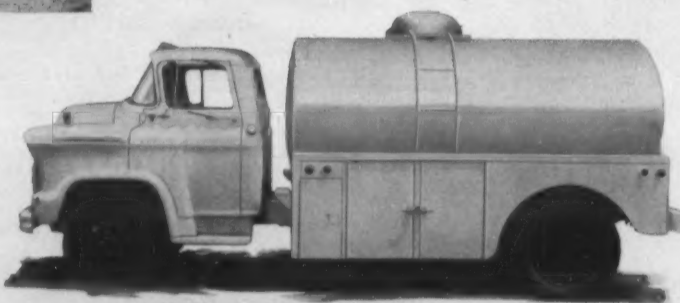
2" layer of Rubatex is applied between inner and outer shells of stainless steel milk tank. Rubatex is applied to inner shell with an adhesive between steel ring stiffeners used around inner tank. Thin layer of Rubatex also used over ring stiffeners—eliminating metal to metal contact. Outer shell is then wrapped around the Rubatex.

Rubatex answers need for careful temperature control in transporting milk as it has lowest heat conductivity (K Factor 0.21) of any known structural material and maintains its insulating efficiency indefinitely.

Rubatex's closed cellular structure also eliminates any possibility of bacterial growth between shells of tank—an important feature in handling liquid foods of any kind

Last—by no means least—Rubatex's light weight helps give Standard Steel Works one of the lightest farm pick-up tanks on road today—providing owner with an additional payload on his choice of truck.

In Standard Steel Works' own words: "After considerable investigation, we found Rubatex was the best low temperature insulation available anywhere."



Insulation efficiency, moisture and vermin proof qualities—plus extreme light weight—determined choice of Rubatex Insulation Hardboard as insulation for Standard Steel Works' 1700 gallon "Payload" farm bulk pick-up tank.

RUBATEX DIVISION, Dept. AC-8
GREAT AMERICAN INDUSTRIES, INC.
Bedford, Virginia



For full details and sample of Rubatex Insulation Hardboard—print your name in space below, attach to your company letterhead and mail to us.

Name _____

RUBATEX
INSULATION HARDBOARD

Send for Free Sample and Complete Details

'Chillerama' Air Conditioning Program Next Shows In Atlanta & Toronto

JACKSON, Mich.—The "Acme Chillerama," an educational program aimed at air conditioning contractors and servicemen, and consulting and industrial engineers and architects, is now being conducted in the U.S. and Canada by Acme Industries, Inc. here, manufacturer of refrigeration and air conditioning equipment.

Opening in Houston in the middle of February, the "Chillerama" will be held 20 times, the concluding meeting being in early April in Los Angeles.

Following is the schedule of meetings yet to be held:

Atlanta and Toronto (March 13); Miami and Cleveland (March 17); Richmond and Detroit (March 20); Philadelphia and Omaha (March 24); Des Moines and New York (March 27); Hartford and Kansas City (March 31); Memphis (April 3); San Francisco and Los Angeles (dates still to be established).

Purpose of the program, states H. W. Smith, advertising and sales promotion manager of Acme, is to present to local en-

gineers, contractors, and service people, information on the application, maintenance, and use of Acme equipment. Three models from Acme's line of air conditioning, air handling, and liquid chilling units are being used at the meetings—an RF-8 "Flow-Cold" chiller; an AJT-8 "Flow-Cold" cooling tower; and an AVC-4 "Flow-Temp" remote room conditioner.

Regional managers, sales engineers, and service personnel for Acme Industries conduct the "Chillerama" sessions with assistance from home-office engineers. Slides prepared by the Jackson firm will illustrate the discussions on installation, maintenance, and use of all types of Acme equipment.

Calls It 'Psychological Block'

Says Many Fail To Use Continuous Air Circulation In Heating Homes

MARSHALLTOWN, Iowa—A "psychological block" is causing 8 million homeowners to waste up to 20% of their annual heating bills, John W. Norris, president of Lennox Industries, Inc., declared recently.

"People accept the principle of continuous air circulation when used in connection with cooling a home or an office," he stated, "but balk at use of the same principle when applied to heating the same home or office."

They erroneously feel, he said, that during the heating season air from the room registers should feel hot or the equipment is not working properly.

This attitude defeats their en-

joyment of the many advantages of continuous warm air circulation, for air in motion feels somewhat cool only at the register because it is just a few degrees above room temperature, according to Norris.

In a properly adjusted system, air from the registers will vary in temperature from a few degrees above room temperature to 160-170° depending on the weather, he pointed out. At the lower temperature, the air feels cool, he added.

The blower is the heart of a forced warm air furnace, Norris said. When the blower is not running, air no longer circulates and mixes; cool air settles to the floor and your feet get cold.

The warm air at the ceiling does no good because it slowly escapes from the house. Thus, said Norris, homeowners pay for heat they don't use.

Norris cited these advantages to homeowners utilizing continuous air circulation during the heating season:

1. Even temperatures in all heated areas—one room doesn't overheat while others are too cold.

2. Gentle, constant air circulation removes stale stagnant air and keeps air moving through the filters.

3. Absence of drafts—caused by large pockets of cold air beginning to move when the blower is set for intermittent operation.

4. Fuel cost savings of up to 20% annually, since heated furnace air is moved through the house immediately instead of waiting for the blower to start.

Enter Restaurant Through Wide Open 'Doorless Door'

SPRINGFIELD, Mass.—Student Prince restaurant here has installed an air curtain door, believed to be the first in such an establishment.

During business hours an invisible screen of air moves downward from adjustable vanes in the ceiling to a floor grating. Airflow acts as an insulating wall to protect the inside from all weather conditions.

"Good for business," said Erna Sievers, president of the organization, "the wide open door is a friendly welcome sign."

Air current is enough to keep out insects and dirt, doesn't bother women's hair-dos.

Cincinnati Office Bldg. Gets Area's Largest Heat Pump

CINCINNATI—Currently in the process of installing the area's largest heat pump in the Cincinnati Shaper Co.'s new office building is the Cincinnati Air Conditioning Co., Arthur Radtke, president, announced.

In its 20-year history the firm has installed \$17 million worth of Carrier Corp. air conditioning and refrigeration equipment here, he added.

Plan Air Conditioned Science Bldg. at Temple

PHILADELPHIA—Pennsylvania's General State Authority has approved preliminary architectural plans for a \$4 million 145,000-sq. ft. air conditioned science building at Temple university.

SEND FOR REPRINTS

Product Knowledge, Protective Maintenance, Trouble-Shooting, Adjustment, Repair of Electric Motors.

Only 40¢ each.

For your copy, clip this ad and mail with name and address to: Air Conditioning & Refrigeration News, 450 W. Fort, Detroit 26, Mich.

Now... the first
really new sales clincher
in a decade!

Coolerator®

EXCLUSIVE **Lectrofilter** HELPS INCREASE
CENTRAL AIR CONDITIONING SYSTEMS SALES VOLUME!



1958 Self-Contained Central Air Conditioners—2, 3 and 4 hp models.



1958 Remote Air Conditioner Condenser Sections—3, 4 and 5 ton models.

Coolerator's unique development—**Lectrofilter**—has tremendous impact as an important health feature in the sale of central air conditioning systems. This electrostatically-charged filter collects and holds tiny grains of pollen and dust—a boon to allergy sufferers. Standard equipment, yet all Coolerator Remote and Self-Contained models are competitively priced!

COOLERATOR SLIDE-OUT CHASSIS! EASIER TO SELL, INSTALL and SERVICE!

Slide it in to install; slide it out to service! Without doubt, Coolerator systems are the easiest to install and service!

**GET ON THE PROFIT BANDWAGON
WITH COOLERATOR and Exclusive
LECTROFILTER!**

Finest in Home Comfort Appliances

LONERGAN COOLERATOR DIVISION
McGraw-Edison Company
ALBION, MICHIGAN



LONERGAN COOLERATOR DIVISION
Department CAC83-AC, Albion, Michigan

Tell Me More About The COOLERATOR Line And Prices.

NAME _____
COMPANY _____
STREET _____
CITY _____ ZONE _____ STATE _____

Utility Sponsored Annual 7-Week Campaigns Help To Keep Cincinnati

Showroom Stunts and Contest Center Buying Public's Attention on Cooling

CINCINNATI—For an outstanding example of utility and dealer cooperative effort in a promotion campaign designed to keep the buying public "air conditioning conscious" at all times one needs only to look at the campaigns which the Cincinnati Gas & Electric Co. has sponsored for the past several years.

Major Push on One Type Unit

The air conditioning promotion is the utility's major "push" on any one type of energy-consuming equipment. It is no brief, "one shot" effort, but one which goes at full pace for seven weeks, starting in June.

Holding the spotlight in this promotion of comfort cooling is an attention-getting display which is set up in the spacious display area on the first floor of the Cincinnati Gas & Electric Co. building in the heart of downtown Cincinnati.

Tied in with this display is a contest in which valuable merchandise prizes are awarded. Both the display and the contest have a definite tie-in with the theme of comfort cooling.

In the 1957 campaign the eye-catcher was an "Air House" cooled and inflated by a heat pump air conditioner, and inflated right on the C. G. & E. lobby floor. Designed by Frank Lloyd Wright, the famed architect, the "Air House" created a sensation when it was featured at the Second International Home Show in New York.

Air Pressure Not Noticeable

Constructed of vinyl plastic, the dome-shaped air house measured 20 by 20 ft., with the 13½-ft. ceiling held up by the constant air pressure supplied by the heat pump—air pressure so slight that it was not noticeable inside the house. The heat pump not only kept the house inflated, but cooled it as well. Visitors entered through a revolving door, to avoid loss of air in the enclosure.

The Cincinnati Enquirer, co-sponsor of the promotion, conducted a contest called "What's the Temperature?" Visitors to the "Air House" were invited to estimate the average temperature for a 24-hour period inside the air house, and the outside temperature, recorded on thermometers placed in a showroom window to help contestants, and also to show the perspiring passersby just how hot it was.

Contestants filled out a coupon and deposited it at the entrance to the "Air House," after making their estimates. Each day an air circulator was awarded to the contest entry coming closest to the actual temperature, and the next 25 received thermometers.

Pick Up Prize At Dealer's

Contestants were asked to specify the name of their appliance dealer on their coupons, and the thermometer winners picked up their prizes at the dealer store specified on the coupon. The utility company's sales counselors distributed the thermometers to the dealers and kept them informed on all

phases of the promotion. All contestants who turned in the coupons were eligible for the grand prize award, which was a room air conditioner.

In conjunction with the "Air House" display there were exhibits of various styles, models, and sizes of room air conditioners, central residential air conditioners, and heat pumps.

Star Opens Contest

The promotion was opened with screen star Marie Wilson throwing the switch that started the heat pump and inflated the house, and the crowds that flocked in for the opening continued through the course of the promotion. Cincinnati TV station filmed the opening ceremonies and featured the film and narration on late-evening newscasts.

Newspaper and radio advertising was used extensively during the campaign period, and

Selling Slant

was aimed at getting the public to investigate the displays on the utility's floor, or to check with a dealer on the low costs of having air conditioning installed.

Dealers, of course, tied in with the promotion campaign special displays and sales and promotional efforts, and followed up leads obtained through the contest.

How effective was the campaign? It would be difficult to nail down the exact figures, but it is of some significance that 1957 Cincinnati installations of central residential air condition-

ers (as reported in one of the News' exclusive city-by-city surveys in this issue) showed a gain over 1956, as contrasted to a general decline throughout the rest of the country.

The Cincinnati Gas & Electric Co. footed most of the bill for the campaign, distributors for various makes of air conditioning equipment kicking in for part of the cost of the merchandise prizes in the contest.

Utility Has Other Beneficial Pushes

The Cincinnati Gas & Electric Co. has instituted other promotions and policies which are of considerable benefit to the air conditioning industry. It has pushed the heat pump, and has installed heat pumps in model homes that have been built in

(Concluded on next page)

Our background for your success



MATHES LEADS IN CENTRAL RESIDENTIAL SUMMER-WINTER SYSTEMS,



This attractive modern home of J. D. Venable, Atlanta Ga., is completely air-conditioned throughout by a Mathes heat pump. From California to Florida, Mathes leads all manufacturers in number of heat pump installations.



Exterior view. Neat and compact, the Mathes outside unit puts the noise outdoors.

Interior view. Cooling and heating coils are inside. This "split system" design makes for ease of application—mechanically and architecturally.

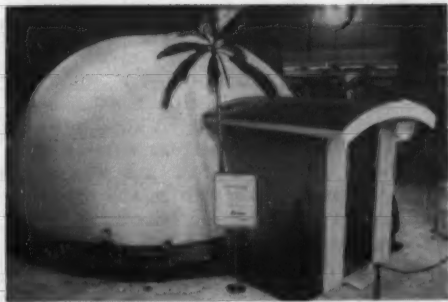


ONLY
**FREE-FLOW
FILTERS**
FEATURE
**B.F. Goodrich
Texlite**
WICKFORD PRODUCTS INC.
New York 13, New York

Air Conditioning Conscious, Promote Comfort



THE CINCINNATI promotion got a big sendoff with Hollywood star Marie Wilson joining C.G.&E. Vice President J. Reed Hartman in opening the promotion. This type of activity got newspaper, radio, and TV publicity to focus attention on the promotion.



CINCINNATI air conditioning dealers cooperated in the promotion, tying in with the contest, and featuring mass displays of air conditioners in their show windows and on their show-room floors.



AMAZING "Air House," cooled and inflated by an electric heat pump, placed in the lobby of the Cincinnati Gas & Electric Co. headquarters in downtown Cincinnati, was the "attention getter" and focal point in the 7-week-long air conditioning promotion staged by the utility company.



A CONTESTANT studies the World Almanac and consults the temperature recorder in the window for possible clues as to the probable average temperatures, as she gets ready to give her estimates in the "What's the Temperature" contest, which was part of the Cincinnati promotion.

(Concluded from preceding page) the community.

The utility's "RSL" electric rate will probably get the cost of electric heat pump operation down to .8 cents per kilowatt hour, and in some installations might get the operating costs for conventional air condition-

ing systems down to that figure. Rate RSL goes into effect whenever a residential customer's use of electricity grows to more than 1,000 kwh. a month for more than three months. Here's how the rate works out:

How Rate Works Out

Whenever a residential customer reaches a level of current consumption that marks him as a large user, a special meter is installed on his panelboard. This meter records, in kilowatts, the peaks of his requirement for electricity. On Rate RSL, the customer's load requirement for each month is the number of kilowatts recorded by the meter during the 15-minute period of the customer's greatest needs of electricity. Thus, the load requirement will vary from month to month, depending on peak use.

Once the basic electric load requirement is established, the cost of electricity for the residential customer is an ever-diminishing price per unit. The following is the structure of Rate RSL:

The first 30 kwh., per kw. of customer's load requirements . . . 4.3¢ per kwh.

The next 100 kwh., per kw. of customer's load requirement . . . 1.3¢ per kwh.

All additional kwh. used per month . . . 0.8¢ per kwh.

The following is an example of how the rate structure works in actual practice:

How Bill Is Figured

Assuming that the customer has a load requirement of 8 kw. and uses 1,200 kwh. per month, the bill will be calculated as follows:

Multiply the 8 kw. by 30 and get 240 kwh.	
at 4.3¢	\$10.32
Multiply the 8 kw. by 100 and get 800 kwh.	
at 1.3¢	10.40
The remaining 160 kwh. at .8¢	1.28
	<u>\$22.00</u>

Any additional energy consumed through additional use of the equipment costs only .8¢.

Thinking of—

- changing territories
- expanding your territory
- taking on new lines—

Check the
CLASSIFIED ADS

Your opportunity may
be there.

in the booming heat pump market

In huge housing projects, MATHES "gets the call"

SEYMOUR JOHNSON AIR FORCE BASE—1,501 UNITS

This big U. S. Air Force and Defense Department approved project at Goldsboro, North Carolina (photo, left) is another of the growing number of multiple-unit projects which rely on Mathes for year-around indoor climate control. So widely favored are Mathes heat pumps—for reliability, efficiency, economy, and the convenience of "split system" design from the standpoint of ease of application—that more Mathes heat pumps are in use today than any other make.

LITTLE ROCK AIR FORCE BASE—1,535 UNITS

The largest heat pump equipped housing project in the world is now under construction at Little Rock Air Force Base in Arkansas. Each of the 1,535 ranch-style frame duplexes on the 300-acre site will be provided with year-around temperature and humidity control by means of a 2½-ton Mathes air-to-air heat pump.

COMMERCIAL INSTALLATIONS, AND HEAT PUMP ROOM UNITS, TOO!

Engineering excellence, reliability, trouble-free performance, ease of application—these are some of the big reasons why Mathes is out front in the booming heat pump market.

To these must be added the beauty of Mathes "Decorator's Choice" room units—styled with the elegance of fine furniture in a selection of distinctive hardwood cabinet designs that blend and harmonize with home furnishings.

Where efficiency counts—where beauty counts—America counts more and more on Mathes! (More than 1 out of every 4 heat pumps sold in 1957 was a Mathes).



Mathes Heat Pump Model 24C-HP Custom-styled hardwood cabinet design in choice of matching woods.



Foremost Name in Air-to-Air Heat Pump Summer-Winter Air Conditioning

MATHES

THE MATHES COMPANY • DIVISION OF GLEN ALDEN CORPORATION • FT. WORTH, TEXAS

NOW

**PORTABLE
DEHUMIDIFIER —**

WEIGHS ONLY 40 LBS.!

Light in weight—low in cost. Here is a truly adaptable dehumidifier. It can be used over a basement floor drain or hung between joists to drip into laundry tub or other receptacle.

Note these features:

5-year warranty

4-blade, single piece fan, 8 in. diameter and 180 c.f.m.

Tecumseh compressor 1/6 hp.

20-gauge furniture steel cabinet in baked enamel.

Dimensions: 18" x 14" x 14"

Controls humidity in area up to 10,000 cu. ft.

Comfort-Aire

HEAT CONTROLLER, INC., JACKSON, MICHIGAN



Proper House Orientation,

**Air Washing Attic Air To Get More Efficient Cooling
Permits Installer-Owner To Use Smaller 3-Ton System**

CINCINNATI—When George Osterfeld, who heads the C & O Construction Co. here, decided to have air conditioning in the new home he was building, he called upon not only his experience in the building field, but also his experience as a user of air conditioning in the former residence that he occupied.

'AIR WASHING' CONCEPT

He had a concept of using "air washing" equipment to ventilate hot air from the attic, and providing proper orientation of the structure in the form of proper insulation and shading, to get more efficient comfort cooling from a smaller system than would be called for without such steps being taken

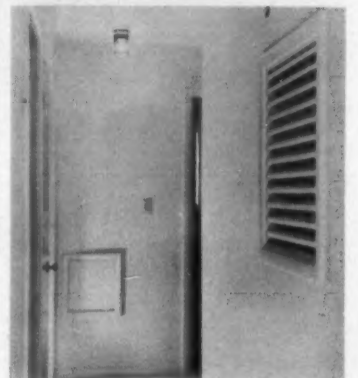
into account.

So in addition to the 3-ton central residential air conditioning system, Osterfeld put two 16-in. Lau attic fans plus a 24-in. exhaust fan in the stairwell leading to the basement. These fans "air wash" his attic during daylight hours and ventilate his home at night, and Osterfeld believes they save anywhere from 5 to 12 hours of operation daily of the refrigeration cycle of the air conditioner.

ROOF REFLECTS SUN

The "orientation" of the house for air conditioning includes a light gray shingle roof which reflects the sun's rays, ceiling insulation with alumi-

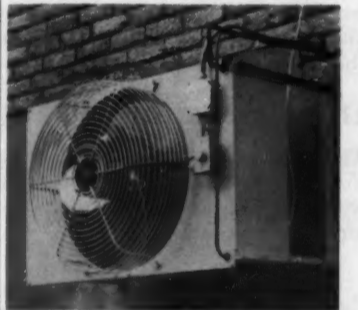
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LOUVER in hallway feeds air to attic fan. Small space between fan and rear of a closet provides suction box.



SECTION of garage and Lau "16AR" fan before finishing. Fan pulls from area above beams and exhausts out under the wide overhang.



AIR-COOLED condenser is mounted on outside rear foundation wall of house.



3-HP. COOLING unit (upper right) is hooked directly to an Armstrong furnace in basement.

ELECTRIC MOTOR NEWS

**New Lightweight Single-Bearing Redmond Motor
Warranted Two Years for Customer Satisfaction**

**HOW TRI-FLUX DESIGN
IMPROVES PERFORMANCE
BY ADDING A 3rd AREA
OF MAGNETIC FLUX**



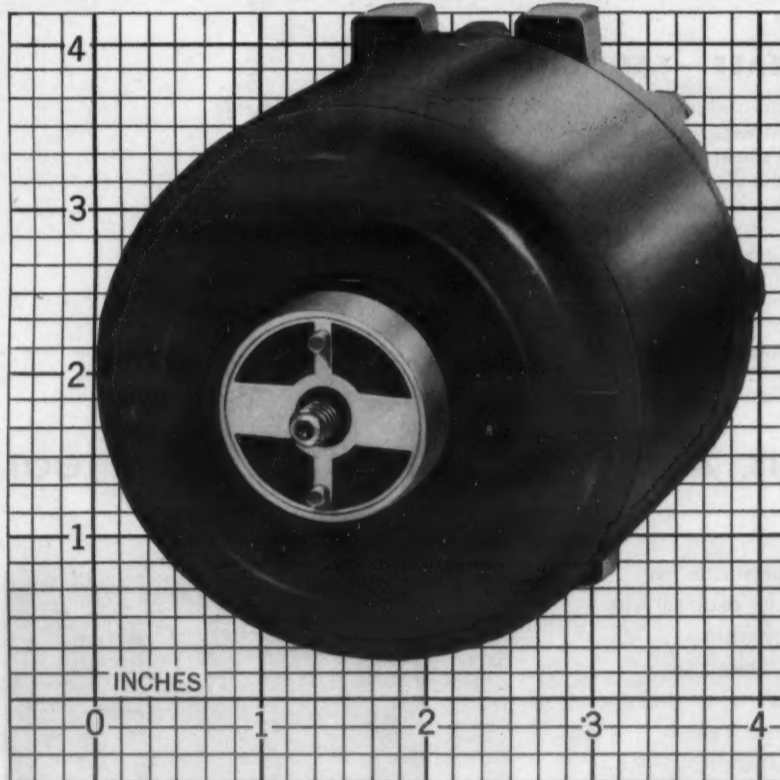
The salient pole single phase induction motor has only one flux path—indicated by the white circle—between the field and the rotor. The motor is not self-starting—for commercial value a starting mechanism must be added.



The second white circle indicates the flux path added by wrapping a shading coil around the trailing pole tip. Power and uni-directional action are increased in this shaded pole induction motor, and it is now self-starting. This motor is now practical at low cost, and is used for applications requiring limited starting torque.



Note that a third flux path has been added at the leading pole tip. This was accomplished by Redmond's Tri-Flux design, whereby a "reluctance notch," which can be seen in the third white circle, is put in the leading pole tip. Efficiency and starting and running torques are greatly increased. New applications are opened to these improved, low-cost motors.



**Designed Specifically for the Refrigeration and Air Conditioning
Industries and Adaptable for a Wide Variety of Applications**

The Redmond AM-4 single-bearing Monomotor is ideal for applications where a long life, quality motor is required. Built to give outstanding performance over years of continuous service-free use, this assurance of customer satisfaction is backed by Redmond's full two-year warranty.

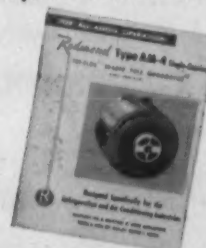
Outstanding features of the new AM-4 are all-angle operation and interchangeability to accommodate all standard brackets and special mounts. Made of a durable lightweight metal, this new single-bearing motor is considerably lighter than conventional models. A new positive oil system is used that is guaranteed not to leak oil in use or in shipment. The extra large oil reservoir is permanently sealed for lifetime lubrication.

Among the many features of the new AM-4 are two that are available only in Redmond small-diameter motors. They are: 1) Patented Tri-Flux design, described in the column to the left, which increases the efficiency and starting and running torques of the AM-4 over conventional single-bearing motors. 2) Uni-Cast construction, which assures a rugged, yet smooth, quiet motor as the stator core frame is precision die cast in one piece, enabling extremely close

tolerances to be maintained during manufacture.

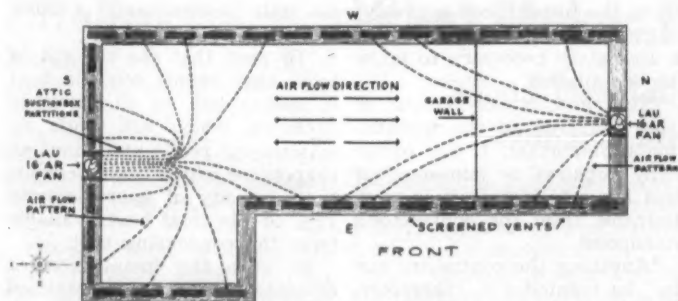
Rated at 1 1/2 through 16 watts, the AM-4 MonoMotor is of 4-pole design, 1550 r.p.m., 115 volts, 60 cycles, and is also available in odd voltages and frequencies.

Descriptive Brochure Available



For the complete story on the new AM-4 motor—dimensions, performance, operational data, and suggested applications—write the Redmond Co., Owosso, Michigan for the "AM-4 Bulletin."

Looking for
a Business to Buy . . . ?
Check the
Business Opportunities
Section
in the classified
advertising columns.



DRAWING shows air-flow patterns of the attic ventilating fans.

Air Washing for More Efficient Cooling

(Concluded from preceding page) num facing on both sides, and gypsum wall board that's backed with aluminum sheeting, this to deflect sun heat on all sides of the home. The house is also located so as to take advantage of shading from trees on the west side.

A 4-ft. overhang goes completely around the house. While adding beauty, the overhang provides some shading and also contains a number of screened vents which provide attic ventilation.

AIR WASHING FANS HOOKED TO THERMOSTAT

Two special Lau "air washing" fans are hooked up to a single thermostat for air washing. These have 16-in. blade diameters and are installed in the north and south overhang. Vents are eliminated in the north overhang. This is the garage side and it is unnecessary to vent the area over the garage. This also provides a natural suction leading to the fan.

On the south side, thin walls have been built inside the attic leading from the fan to provide a suction box. (See diagram for air flow pattern). It was necessary to install two fans due to the 2,400-sq. ft. area of the

attic. Height at ridge is approximately two feet. This includes the garage area. The home has 1,900 sq. ft. of living area.

NIGHT VENTILATION

To save operating costs at night, Osterfeld installed a regular Lau 24-in. rancher fan in the stairwell leading to his basement. This will use cool night breezes for ventilation with the air conditioning unit shut off. Air will flow down the stairway and out a basement door or windows. Sloping lot permitted the basement to be constructed completely above grade.

A wooden louver is unobtrusively located in a hallway to provide air flow to the fan. By opening one or two windows and turning the fan on, Osterfeld will receive complete ventilation.

Fan is mounted at about a 45° angle. A closet is built immediately in front of the fan's location. This closet back wall and sides of the stairwell make a suction box for increased air flow.

The air conditioner is a 3-hp. air-cooled unit hooked up to an Armstrong furnace. One system of ducts is used for both air conditioning and warm air heating.

Ranco Research Center Sees 'Real Strides' In Heat Pump's Foreign Use

FT. LAUDERDALE, Fla.—Ranco Inc. recently purchased a three-acre tract near here and is now building a research center which is "planned to eliminate shortcomings in the present building" as well as provide space for increased facilities and personnel and expansion.

The company makes temperature and pressure controls and valves for the air conditioning, refrigeration, automotive, and appliance industries, and other products. It began research operations here two years ago with a staff of five. "Research is not only important—it's our lifeblood," says E. C. Raney, board chairman.

Testing and research continue in all phases of Ranco's business. One major product now under way is work on the heat pump. Ranco believes "real strides are to be made in this field with great potential in foreign markets."

Difficulty and expense of heat pump operation in colder climates holds the firm's interest at present. A new reversing valve, which reverses the refrigerant cycle, has been marketed. Used with the company's new automatic de-icer control which operates due to temperature differences caused by build-up of ice on the external coil, and a thermostatic control operating on temperature demands, Ranco has, it claims, pushed "heat pump use in colder areas."

Brochures Key Features

LOS ANGELES—The Radiant Heating & Cooling Institute, 5657 Wilshire Blvd. here, has published a brochure explaining key features of its system. George Rusher, Institute president, said that the move was necessitated by the number of information requests received.

Reade Heads Norfolk RSES Chapter

NORFOLK, Va. — Recently elected president of local chapter of Refrigeration Service Engineers Society was James D. Reade, master mechanic for Chesapeake and Potomac Telephone Co. of Virginia. Raymond Mayfield is new first vice president; Donald Willey, second vice president; Earl Bowman, secretary-treasurer; and M. J. Horneber, corresponding secretary. K. U. Higgle was named educational chairman, R. J. White, Jr., sergeant-at-arms.

HASTINGS HOIST-IT **THOUSANDS OF USERS PRAISE THE "HOIST-IT"**

ERECT A 4,000 LB. UNIT IN 57 MINUTES

SAVES MONEY, TIME, TROUBLE

- Raises up to 4,000 lbs., as high as 24 ft.
- Two men can erect a 4,000 lb. unit.
- The "Hoist-It" often pays for itself on one job.
- Completely safe. Easy to use.

HASTINGS HOIST-IT IDEAL FOR ALL TYPES OF EQUIPMENT
Air Conditioners • Attic Units
Unit Heaters • Refrigeration Coolers

Write for Prices and Bulletin AC-38-H

HASTINGS AIR CONTROL, INC. 3215 Leavenworth
Omaha 5, Nebraska



Got a BLADE PROBLEM? Call MEIER

We're just a hop-skip-and-jump to any spot in the country. Your problem will be followed up quickly by one of MEIER's own factory representatives in Indianapolis. And, we can get samples out to you faster than somewhat.

Customers from Texas into Canada—up and down the East Coast to Western areas—tell us they like our fast, competent service. We think you will, too. Try MEIER.

Meier Electric & Machine Company, Inc. offers you over 50 years of experience, plus the scientific and technical know-how and equipment necessary to provide you with the correct propeller for YOUR product. With this background of experience—coupled with continuous scientific research, modern production and technical facilities—we're in a wonderful position to serve both large and small manufacturers of products involving air movement. Try MEIER.

MEIER ELECTRIC & MACHINE CO., INC.
3525 East Washington Street • Indianapolis 7, Indiana

FLOOR UNITS For CHILLED WATER Solve Many Design And Installation Problems

HASTINGS Floor Units are ideal for existing buildings where serious disruption or excessive cost results from breaking thru heavy walls and floors for duct-work.

MODELS

Complete units as pictured — for direct discharge with 4-way air distribution grilles.

Basic units, less top section, for ducts.

CAPACITIES

Three sizes — from 3 to 15 tons. Air delivery 1200 to 5600 cfm.

COILS

All copper or aluminum fins. Highest efficiency for chilled or well water.

FEATURES

Insulated cabinets. Heating with hot water or steam. Quiet operation.



Water coil and DX air handling units—Up to 24,000 cfm. Shipments from Stock on All Sizes.



Contractors and Engineers Write For Bulletin AC-38-W

HASTINGS AIR CONTROL, INC. 3215 Leavenworth
Omaha 5, Nebraska

Advantages Before and After the Sale

Pitfalls To Avoid In Selecting Air or Water-Cooled Home Air Conditioners

SAN FRANCISCO—Some advantages of air conditioning equipment are most important before the sale and others are important after the sale has been completed, Lester O'Meara, Sacramento, Calif. mechanical engineer, advised a meeting of the National Warm Air Heating & Air Conditioning Association here.

He outlined what these were during a panel discussion. He also pointed out some pitfalls to avoid and some factors to consider in selecting either air-cooled or water-cooled equipment for the home market.

Features of System

"During the course of the sale," he said, "whether it is to an individual owner or to a tract builder, the features of the system which he is to sell play

free from maintenance cost.

"And next, the cost of the operation of the equipment must be reasonable, and certainly it must not be any more than a comparable system which his neighbor has.

'Keep Field Labor At Minimum'

"Now," O'Meara continued, "when it becomes time to install the system after the sale, then the following becomes important:

"Field labor for the installation must be at a minimum. The compactness and weight of the equipment must be in line, be-

cause the owner does not want to give up any more space than is absolutely necessary to make the installation.

"The number of hours of labor involved in the installation is important. If the equipment requires a minimum of field labor to install, it is most desirable from the contractor's standpoint.

"Anything the contractor can do," he pointed out, "therefore, both in selection of the equipment and placement of it on the premises, which will cut down future call-backs for service, is most desirable. And it is also a prime necessity if the contractor is to make any money in the business."

'Be Sure of Capacity Ratings'

As to the pitfalls, O'Meara warned, "first be sure of the capacity ratings of the equipment you are selling. Do not be misled by the fallacy that a 3-

hp. unit is necessarily a 3-ton air conditioning system.

"Be sure that the concept of total heat versus sensible heat is understood. In the average packages which are made by manufacturers the units have an evaporator which has a sensible heat capacity of approximately 75% of the total heat available from the condensing unit.

Be sure the installation of equipment is not so restricted that it can't be properly serviced.

"Be sure that the fan and distribution system has characteristics which will circulate the required quantity of air for the size of the system being installed.

"In many cases it may be very desirable to have a two-speed motor for use between summer and winter conditions.

'Be Certain Owner Understands Costs'

"Be sure," he admonished, "that the owner understands the costs of operation of equipment—also that he is properly instructed in the proper use of the equipment before leaving the job."

O'Meara warned his listeners that it would be well to draw some comparisons between water and air-cooled condensers before seizing on air-cooled condensers as the panacea for all troubles relating to residential air conditioning.

What Happens Under Certain Conditions

"If you will refer to manufacturers' tables which are set up under ASRE conditions," he explained, "that is 80° F. dry bulb and 67° F. wet bulb, and if we take a condition of 95° F. dry bulb entering the condenser on the air-cooled condenser, we find that the water-cooled unit with a 75° F. entering water temperature and a 95° F. temperature off the water-cooled condenser has a 9.5% greater total heat extraction capacity and 7.8% greater sensible heat extraction than an air-cooled unit.

"Now, if you assume a hot day of 105° F. outside, a water-cooled unit will have 17% greater capacity total, with 12.2% greater sensible heat extraction.

"In other words," O'Meara said, "the capacity of the air-cooled unit has decreased when it is hottest outside and when the maximum capacity is needed from the unit. It is well to keep that in mind," he cautioned.

"In a dry climate only the sensible heat is extracted, so that a 3-hp. air conditioning unit is more nearly a 2-ton unit of air conditioning so far as actual comfort conditions are concerned.

"Several combinations are available for any job," he in-

(Concluded on next page)

Simplify Air Conditioning Control Panels with

RANCO "G" CONTROLS

Compact, Ranco "G" Controls were developed for air conditioning control panel designs to take less space, are easy to install and are readily adaptable to your specific product.

Ranco "G" Controls include both high and low pressure models with automatic or manual reset; low pressure cycling controls with (for factory use only) or without dif-

ferential adjustment; and dual pressure controls by pairing combinations of single controls. Three different switch assemblies provide ratings from pilot duty, intermediate to high ampere switching capacity in single pole, single or double throw action.

For further details call or write to Ranco Inc., 601 West Fifth Ave., Columbus 1, Ohio.

Ranco
INCORPORATED
COLUMBUS 1, OHIO

World's Largest Manufacturer
of Refrigeration Controls

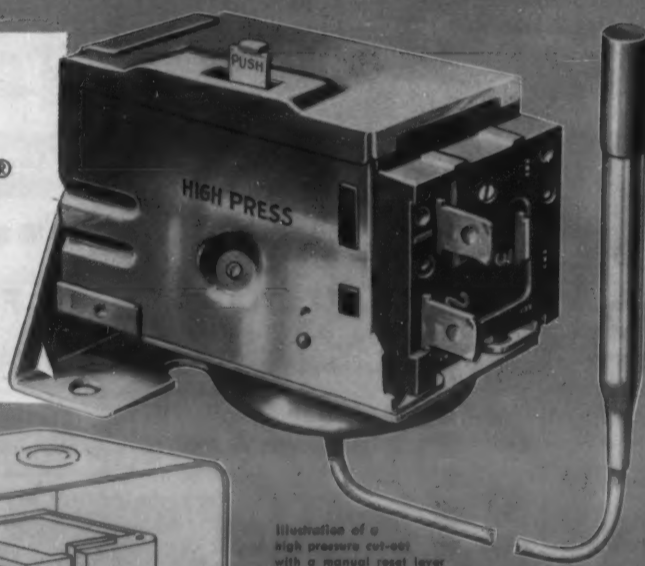
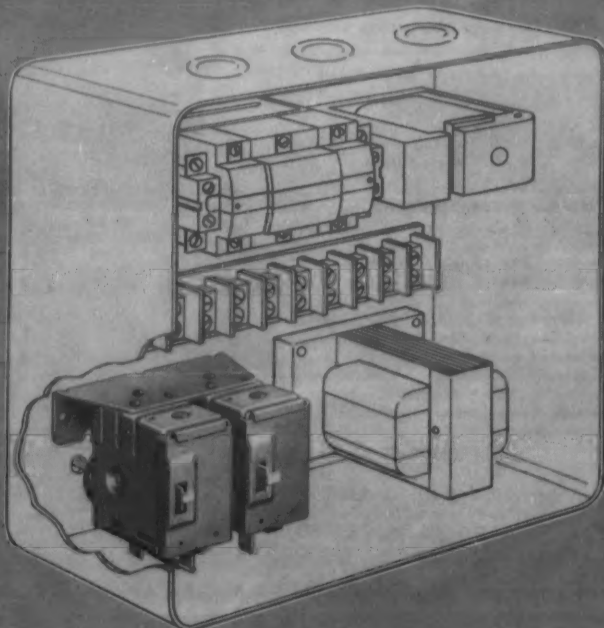


Illustration of a high pressure cut-off with a manual reset lever



- Automatic or manual reset.
- Switch assemblies for electrical ratings from pilot duty through 18 amperes, full load.
- 7 to 425 psi selective ranges, non-adjustable in the field.
- Screw or quick-connect terminals.

Panel installation of dual pressure with high and low pressure Ranco "G" Controls mounted on a common, single bracket and connected electrically by a jumper. Also, each can be individually mounted on separate brackets, according to panel space.

wanted



TURBINE VENTILATOR

- DEALERS
- DISTRIBUTORS
- AGENTS

TRIANGLE ENGINEERING CO.

1307 Ashland • Houston 8, Texas

Pitfalls --

(Concluded from preceding page)
sisted. "Just as one type of air conditioning system is not suitable for every commercial application, neither are the air-cooled or water-cooled condensers suitable for every residential job.

O'Meara told a questioner that "the only justification for the large room air conditioner (for cooling an entire home) would be where there is no forced warm air furnace system already installed in the home. "You may find that condition," he said, "in more temperate climates, through Arizona or in the desert, where the house heating system is very nominal and may be only a portable unit. "If that is the case, then there is a place for a large room air conditioning unit. Certainly, we don't want to eliminate the possibility of selling to the people who may not have a complete warm air furnace system installed."

Another questioner asked, "Is it always possible to use the existing heating system and convert it to year-round use?"

After warning his hearers again to properly analyze the job, he declared, "If the ducts in the home are undersized, if they were put in with the idea of heating only, and the heating requirements are minimum, your fan will be undersized, your ductwork will be undersized, your distribution system will be inadequate. I would say in that case you should play safe and sell them a large room unit, or sell them a larger furnace, to start with."

A question came from the meeting floor. "Do you find that it is absolutely essential to change a tin pipe installation to galvanized, to conduct cooling through the ductwork?"

O'Meara replied: "I would say this regarding tin pipe versus galvanized, that if you are in the area that a relatively dry climate—if you are working on high pressure on your compressor so that you are not condensing the moisture out of the air in the ducts, so that you are not going to get a lot of condensation and considerable rust—that you are probably all right with your tin pipe job."

Trion, Ltd. Begins Full Manufacturing Operations in Toronto, Ont. Factory

McKEES ROCKS, Pa.—Trion (Canada) Ltd., a subsidiary of Trion, Inc. here, has begun full manufacturing operations in its new Toronto, Ont. factory, and is now marketing Trion electronic air cleaning units throughout Canada.

The Canadian subsidiary is manufacturing the full range of industrial, commercial, and residential electronic air cleaners. Sales representatives are located in all major Canadian cities, it was noted. Trion's Canadian operations are under the direction of Dr. Frederick Ritter, vice president.

Trions have been imported into Canada for some years but the expanding Canadian market and increased demand for Trion equipment justified opening a factory in Canada, according to E. W. Meyers, Jr., president.

What Makes Prospect Choose YOUR Product?

Good Installations, Pleasant Salesman, Manufacturer's National Advertising, and Reputation for Service

FINDLAY, Ohio—What makes an air conditioning prospect choose your product rather than your competitors?

The pleasant personality of the salesman and the promise of a workmanlike installation has a lot to do with the final decision, believes Walter Schultz of Modern Heating Co. here.

Of course, there are a number of other important factors such as competitive price, service, brand confidence, and friends' recommendations, he admits.

But, he believes that his firm's long reputation for making good installations of heating equipment has played an important role in winning air conditioning business.

"The customer doesn't care about B.t.u. and other technicalities," Schultz contends. "He only cares that the system is installed right and that it will do a good cooling job."

Particularly in residential installations, he believes, has the

SELLING SLANT

firm's reputation for quality installations paid off.

"A number of jobs we have gotten can be attributed to the fact that we are in heating. People have confidence that we know what we are doing and will do a good job."

Schultz and his partner John

Schott (they received a lot of attention from a radio commercial tag-line: "He Schott, I'm half-shot.") recognize that good installation must be followed up by good service.

After getting into air conditioning, they relied on their experience in installation to pull them through and farmed out the refrigeration service. Gradually they picked up the necessary refrigeration knowledge and hired a serviceman.

"We soon learned that there was more service connected with one air conditioning installation than with a dozen heating jobs," Schultz said. "It's more expensive, too."

Prompt service is just as im-

portant in air conditioning as in heating, they found.

Schultz explained, "The modern home designed for air conditioning is built so tightly that the owner needs air conditioning as much as he does heating. So when the cooling system falters, he wants service and wants it right now."

While Schultz cannot attribute any sales directly to advertising, he is convinced that national advertising by the manufacturer helps considerably.

When Modern Heating first got into the cooling field, it handled a unit made by a small manufacturer whose name was not known in the community. While the unit was a good one, Schultz found that he not only had to sell the product, but he had to sell the manufacturer as well. Now he handles the Air-temp line and finds the sales job easier.

Hundreds of Dollars Easier to Sell! Hours and Hours Faster to Install!

FEDDERS

all
in
one

Adaptomatic

• No refrigerant piping

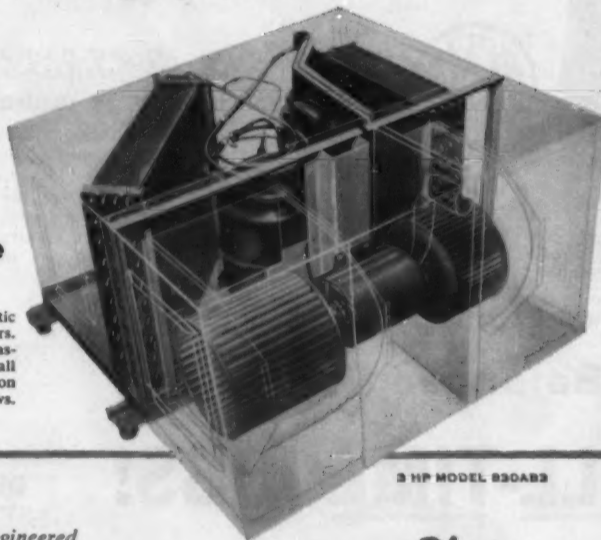
• No water lines

• Built-in low voltage panel

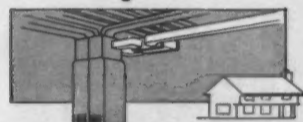
• Fits through 24 inch openings

• Pressurized air system permits installation anywhere

X-ray view of 3 HP Adaptomatic shows built-in centrifugal blowers. Entire unit shipped completely assembled. When necessary, for small openings, complete blower section detaches by removing only 8 screws.



3 HP MODEL B30AB3



Can connect to warm-air system utilizing same ducts for heating and cooling to slash costs.



In attic or garage roof—Can be installed in any interior location to save duct work.



For stores, offices and other open areas, discharge return plenum eliminates need for cold air ducts.

Only the Fedders Adaptomatic is engineered and priced to make it easy for your average-income customers to buy . . . easy for you to sell. Proved in thousands of installations.

Fast, Easy Installation—An Adaptomatic exclusive that pleases customers . . . makes you money. No expensive structural changes needed . . . no water pipes or cooling towers . . . no on-site charging of hermetic lines. Split chassis design gets unit through openings small as 24 inches square. Ducts to outside fit between studs without cutting.

FOR EXTRA BUSINESS!

2 New Adaptomatic Models!

New 3 HP Water-Cooled Adaptomatic . . . for large areas isolated from outdoor air source. New Discharge-Return Plenum eliminates need for any ducts. Ideal for fine stores where ductwork would impair decor, for large offices unserviceable by window units.

New 3 HP Heat Pump Adaptomatic—provides winter heating, summer cooling at a price only slightly above straight cooling models . . . hundreds of dollars less than other heat pump central air conditioners. Optional duct heater available.

Plus:

Fedders exclusive system of Pressurized Condenser Air—permits installation of Adaptomatic anywhere in existing homes . . . with maximum efficiency and minimum ductwork.

Happy Result: You sell Fedders Adaptomatics easier and faster because final cost is *hundreds of dollars less* . . . brings central air conditioning within reach of additional thousands of families. Available in 2 HP and 3 HP models.

INTRODUCING!

Fedders Remote Air Conditioning Systems

Now Fedders offers a complete line of remote central air conditioners—up to 5 HP—to solve every possible air conditioning problem. New remote units incorporate Fedders exclusives . . . arrive factory-tested and pre-charged . . . to eliminate toughest, meanest part of installation.

see your **FEDDERS** distributor.

FOR MORE INFORMATION ON THE PRODUCTS DESCRIBED ON THIS PAGE

Write Directly to the Company—at the Address Given in the News Item

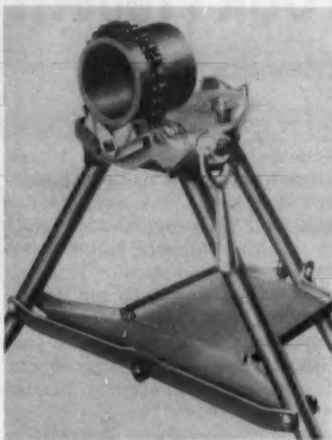
Air Conditioning & Refrigeration News, March 10, 1958



Rack Organizes Jars Of Repair Parts

A new service in installing a "bottle rack" that sets up systematically organized stocks of small plumbing repair parts in individual transparent glass jars arranged on a series of shelves, is now available from the J. A. Sexauer Mfg. Co., Dept. AC&RN, 2503 Third Ave., New York City.

Claimed advantages of a Sexauer bottle rack are described as insuring an intelligent quantity of each type and size of repair part required is always on hand with a label affixed to each jar to describe the item and the size of its contents. There is space for both catalog and stock numbers.



Introduces Tripod Vise Stand

A new tripod vise stand for 1/4 through 5-in. diameter pipe has been announced by Erie Tool Works, Dept. AC&RN, 735 W. 12th St., Erie, Pa.

New chain tripod vise, called the 2 PSC, features a side handle, permitting the used to tighten the chain without any danger of hitting the legs or base. Better leverage is achieved, the firms says.

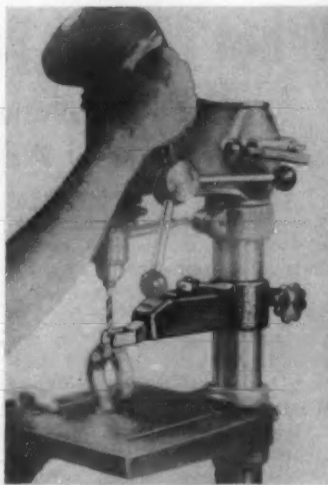
Introduces 'Preslok' Blower Assembly

A new blower assembly called the series A "Preslok" blower assembly is currently being produced by Lau Blower Co., Dept. AC&RN, 2027 Home Ave., Dayton 7.

Heart of the new design is an 18-in. diameter Preslok blower wheel. This is the newest and largest size in this design. Other sizes have 9, 10, 12 and 15-in. diameters.

Each blade is mechanically attached to the center disc by four individual steel fingers individually pressed within the blade. An extra 1/8 in. is added to the end ring for more rigidity and to bear the stress of higher speeds. This positive mechanical lock prevents blades from flying off at the new and higher speeds.

Wheel is mounted within the blower shell using a tripod type bearing. This mounting gives more side space resulting in less impedance to the air flow. Carefully located punched holes on the scroll sides provide multiple mounting possibilities.



Drill Press Collar Holds Any Piece

"Sta-Put," a convenient device offered drill press operators has a split collar which is easily attached to a drill press column; can be quickly adjusted to hold almost any shaped piece securely in desired alignment with drill. Available with wheel or lever handle from the producer, Cincinnati Tool Co., Dept. AC&RN, 4355 Montgomery Rd., Cincinnati 12.

Sta-Put eliminates slipping, reduces drill breakage, spoilage of expensive material, and the danger of broken fingers, and skinned knuckles, the company said.



Thermometer Kit Checks Superheat

A new thermometer kit designed specifically for checking superheat has been developed by Marsh Instrument Co., Dept. AC&RN, 3501 Howard St., Skokie, Ill.

New kit consists of two identical 2-in. dial thermometers in highly polished brass cases having screwed rings and bevelled glass crystals. Dials are graduated minus 40° to plus 65° F.

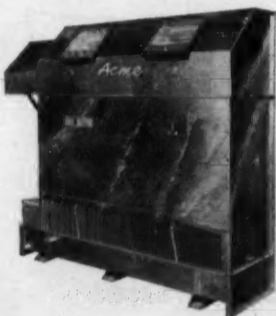
Each thermometer is equipped with a 12-in. double armor capillary tubing and small sensitive bulb only 1/4 in. in diameter.

Acme
INDUSTRIES, INC.
JACKSON, MICHIGAN

manufacturers of
QUALITY
air conditioning
and refrigeration
equipment since 1919

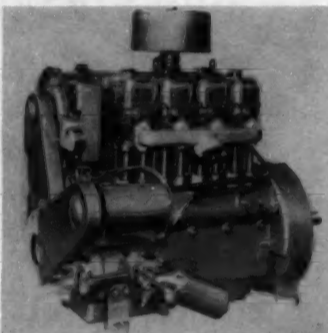
ACME
IN TRADITIONAL
REFRIGERATION

recognized
industry-wide

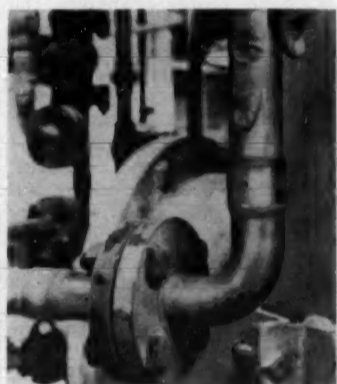


NEW Acme FLOW-MIZER towers and evaporative condensers

Acme's famous line of Flow-Mizer towers and evaps combines dependable operating efficiency with compactness and durability. Towers are available from 20 thru 175 tons with the new plastic Acme-Pak. Evaporative condensers feature prime surface coils (copper or steel) in capacities to 200 tons. All units are hot-dip galvanized after fabrication.



FOUR-CYLINDER air-cooled high-speed diesel engine shown is one of four introduced by Brush Aboe, Inc., Dept. AC&RN, Woodside, N. Y. New PC series includes one, two, three, and four-cylinder models ranging in weight from 243 lbs. for the PC-1, to 503 lbs. for the PC-4. Horsepower output ranges from 6 1/4 to 25. All PC engines operate at a constant speed of 3,000 r.p.m.



Connector Permits In-Place Assembly

Stainless steel piping can be welded quickly by using a new aligning connector recently announced by the Speedline Div., Horace T. Potts Co., Dept. AC&RN, 504 Erie Ave., Philadelphia.

The new connector fits over ends of connecting sections permitting in-place preassembly of pipe and fittings, and helps to align the system, it was stated. Another advantage is elimination of icicles inside connections. Such icicles impede fluid flow and cause turbulence in the line.

Install the Balanced Driers that do **2 FULL-TIME JOBS!**

High-capacity desiccant

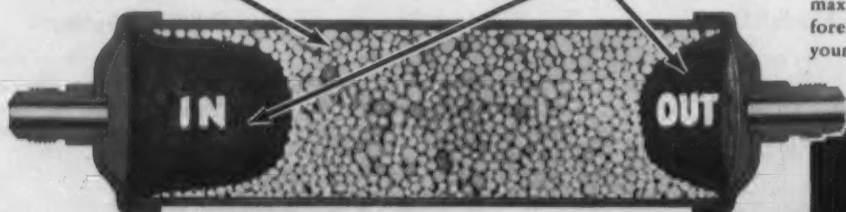
Permasorb®
WITH MOLECULAR SIEVE

does the **Drying**

Many times greater drying capacity than other desiccants and protected by an inlet filter against dirt, sludge, clogging. It does a full-time drying job!

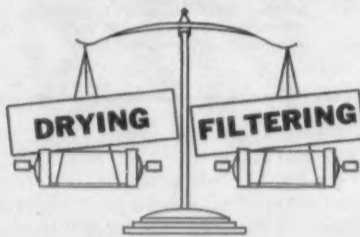
Double FILTERS
do the **Filtering**

Specialty-processed, low-micron inlet filter traps and holds all foreign matter within filter and away from desiccant. Outlet filter protects expansion valves and other critical parts.



Accurate Rating and Selection Data available from authorized DFN wholesalers.

The McIntire Company • Livingston, New Jersey
Since 1925—Specialists in Drying and Filtering



A dirty, sludge-coated desiccant can not dry effectively. That's exactly what happens in driers where the desiccant must also act as a filter. The desiccant becomes contaminated and clogged, quickly loses drying efficiency.

Only DFN Filter-Driers do each job separately—with size of filters and quantity of desiccant perfectly balanced for maximum effectiveness against moisture, foreign matter and acids. Buy them at your Wholesaler.



Soil Pipe Cutter Produces Close Cut

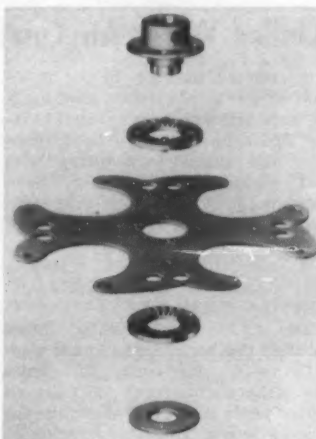
A new, lightweight soil pipe cutter which is claimed to produce cleaner, and closer cuts on cast iron soil and vent pipe from 1 1/2 to 4 in. has been announced by Reed Mfg. Co., Dept. AC&RN, Erie, Pa. Weighing 7 1/2 lbs., the new SP4 cutter is an open-frame, four-wheel design, which is said to permit the operator to cut 4-in. extra heavy soil paper in less than half a minute even in tight corners.

A spring tension device provides automatic compensation for out-of-round pipe, chilled spots, seams, or raised letters and permits clean, right-angled cuts as close as 1 in. from the end of the pipe, it was explained.

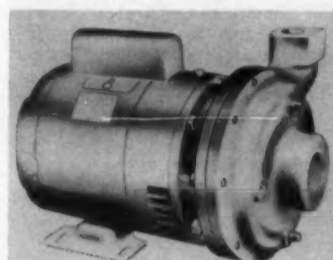
Resilient Fan Hub Reduces Noise

An entirely new resilient fan hub, now produced as a standard component is claimed to be the first "soft" hub design to combine superior noise reduction with the highest available starting-torque rating. It is made by Torrington Mfg. Co., Dept. AC&RN, Torrington, Conn.

Noise level tests are claimed to have shown the new neoprene hub at least as efficient as the best available conventional design in reducing 120-c.p.s. noise originating in a.c. drive motors, the company said.



Adds Product Line with Volute Centrifugal Pumps



A line of products with a new type A5 centrifugal pump of the volute type for horizontal or verti-

cal installation has been added by Dunham-Bush, Inc., Dept. AC&RN, 179 South St., W. Hartford, Conn.

The pump can be used as a circulator in a hot-water system, chilled water air conditioning system, or in a cooling tower installation.

Mechanical construction of the motor includes ball-bearing drip-proof frame with conduit box for easy connection, and screwdriver "holding" slot in shaft end opposite the centrifugal pump. Shaft and mounting flange comply with NEMA standards, permitting interchangeability.

Offers Air Conditioner-Convactor Heating System Pressure-Type Cooler Comes In 5 Models

"Weather-Twins," a combination air conditioner-convactor heating system, has been introduced by the Kelvinator Div., American Motors Corp., Dept. AC&RN, 14250 Plymouth Rd., Detroit 32, and Embassy Steel Products, Inc., 890 Stanley Ave., Brooklyn.

Housed in an integral, engineered cabinet, the new system claims many advantages to builders over central air conditioning.

With the system, individual Kelvinator air conditioning units are installed in apartments and rooms at the builder's discretion. Builders may install Weather-Twins in sections. They do not have to invest in a complete sys-



tem at one time as must be done with central air conditioning. While the sleeves and Weather-Twins cabinets are installed at the time of building construction, the Kelvinator air conditioners may be put in when the apartments are rented.

Now manufacturing five new models in its pressure type (PT) series cooler is Temprite Products Corp., Dept. AC&RN, E. Maple Rd., Birmingham, Mich.



New, light, mist gray enamel finish is enhanced with a restyled modern name plate design, the company said.

Three air-cooled models have capacities from 8 to 22 g.p.h.; two

water-cooled models are 15 and 22 g.p.h.

Dual water flow controls are standard. Either foot pedal or finger tip control may be used as desired. An automatic flow control prevents spurring, and the stream guard design is claimed to prevent splashing.

Can Interchange Blower Wheels with Present Ones

Standardization in the heating and air conditioning industries is claimed improved with the introduction of a new series of blower wheels in 15-in. diameters by Morrison Products, Inc., Dept.

AC&RN, 16816 Waterloo Rd., Cleveland 10.

New blowers will be interchangeable with existing wheels and assemblies. The width of the new wheels will range from 6 to 16 in.

WHO'S IT FOR?

It's a Remco Super-Flo filter-drier and it's tagged for:

FORD MOTOR CO.

CHEVROLET

JANITROL

RHEEM

EATON

NOVI

GILSON

AMANA

BRYANT

PRIMOR

UNIFLO

PFAUDLER

LINTERN

TRANSICOLD

PARKOMAT

FRIGIKAR

LONERGAN

O. A. SUTTON

CLIMATIC AIR

JOHN E. MITCHELL

PERFECTION INDUSTRIES

PAUL MUELLER CO.

KYSOR HEATER

ARMSTRONG-FURNACE

MCCORD CORP.

A.R.A. MANUFACTURING

IDEAL COOLER

FEDERAL REFRIGERATOR

SIMPLEX MFG.

D. W. ONAN & SONS

NATIONAL-U.S. RADIATOR

AND MANY OTHERS

These manufacturers use Remco because the price is competitive and the product dependable. Add it up: thorough removal of moisture; efficient filtering; negligible pressure-drop. Who's it for?

IF IT'S REMCO-IT'S FOR YOU!

write for Bulletin R-11

REMCO INC.
ZELIENOPLE, PA.

CARRIED IN STOCK BY LEADING WHOLESALEERS EVERYWHERE

ARE you in need of a "just right" man to fill a slot in your organization—the man you are looking for will be reading the

NEWS' CLASSIFIED ADS

Motor-run and motor-start capacitors in . . .

the **CAPACITY** and **VOLTAGE** you need!
the **CASE-STYLE** and **SIZE** you want!



Specify

AEROVOX AC CAPACITORS

Only from Aerovox can you choose from the widest variety of case-styles and sizes you want in a complete range of capacity and voltages for your air conditioner requirements. And, when you specify Aerovox AC Capacitors you are assured of getting the proper capacitor of the highest quality for long, trouble-free applications.

If your requirements call for special designs, Aerovox's design engineering representatives have the necessary training and experience to assist you on short notice in

solving your special capacitor problems. You are invited to draw upon Aerovox's years of pioneering experience in the design and manufacture of AC capacitors for the air conditioning, refrigeration and motor industries.

If you specify or buy AC capacitors, send today for your free copies of our two new bulletins covering AC motor-start and motor-run capacitors. Technical and general application information is included as well as complete specifications and sizes on all standard stock items.

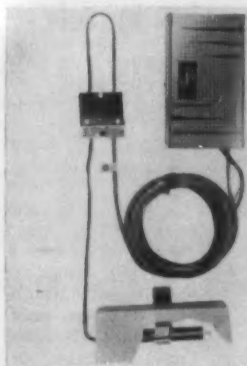
AEROVOX CORPORATION

NEW BEDFORD, MASS.

FOR MORE INFORMATION ON THE PRODUCTS DESCRIBED ON THIS PAGE

Write Directly to the Company—at the Address Given in the News Item

Air Conditioning & Refrigeration News, March 10, 1958



Introduces Comfort Control Principle

A new principle of comfort control in the home is effected by the new "3W" type "Weather-Flo," according to Automatic Devices Co., Inc., Dept. AC&RN, Western Springs, Ill.

In place of the start-stop flow of heat, the 3W Weather-Flo raises the temperature of heat flowing with each fraction of a degree drop in house temperature, the company said.

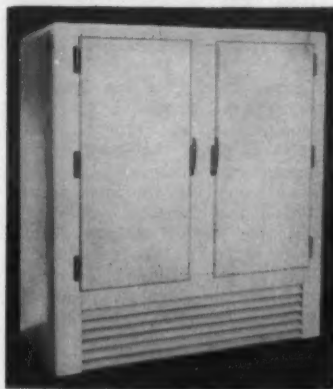
Should the house temperature rise due to solar heat, cooking heat, etc., the temperature of heat flowing is lowered proportionately to preserve a comfortable balance.

Produces Wider Choice of Commercial Equipment

A wider choice of commercial refrigerators and freezers is now offered by Nor-Lake, Inc., Dept. AC&RN, Hudson, Wis.

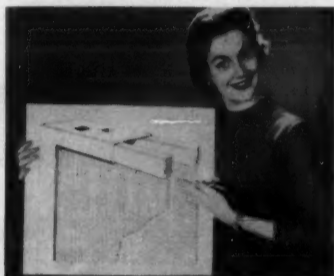
Latest additions to the Nor-Lake line include a 43-cu. ft. freezer (model 43XH), a 45-cu. ft. refrigerator (model RI-45), and a dual-purpose unit consisting of a 21-cu. ft. refrigerator and a 22-cu. ft. freezer in one cabinet (model CR21-22X), each section of which is refrigerated independently of the other.

Designed for commercial enterprises and institutions where large food storage capacity is required, the new models have such construction features as auto-body steel exteriors, aluminum interiors, "Fiberglas" insulation, baked white



enamel finishes, and hermetically sealed compressors.

Adds Plastic Woven Fabric Electrostatic Filter



A new lifetime electrostatic air filter has been offered by Permatron Corp., Dept. AC&RN, 4840 N. Linder Ave., Chicago.

The woven fabric of the unit is a new high-density plastic with inherent electrostatic characteristics, the maker states. The "Permatron" has more holding power for dust, dirt, and pollen, it is claimed, due to an exclusive supercharging process that increases the effectiveness.

Chilled Water Air Conditioners Need No Ducts

A claimed solution to the problem of air conditioning and heating existing buildings without tearing up walls for large duct openings and without disrupting normal business routine has been announced by Hastings Air Control, Inc., Dept. AC&RN, 311 S. 15th St., Omaha 5, Neb.

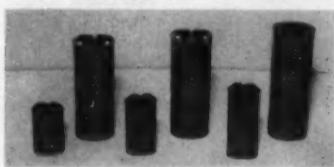
A new line of free-standing floor-model chilled-water units permits the installation of 1,000 to 3,500 c.f.m. air-handling units right in the conditioned space with little or no ductwork. The units are simply connected with small water pipes to a central chiller for cooling and a boiler for heating.

Advantages claimed are: no ductwork; no cutting and patching; and no need for a large equipment room; no compressor noise or refrigeration service calls in



the conditioned space; no expensive wiring to each unit; and better control of temperature and humidity.

The central chiller is located wherever convenient and all heavy wiring, noise, and service are confined to that one area.



Capacitors Offer More Microfarads

More microfarads per unit are now offered in new air conditioning capacitors offered by General Electric Co., Dept. AC&RN, Hudson Falls, N. Y.

The newly designed capacitor units—taller but with same base dimensions—now offer three oval ratings in heights of 7, 7½, and 8 in. The 7-in. unit, rated 20 uf, 370 vac, and the 7½-in. unit, rated 30 uf, 236 vac have applications with compressor motors of room air conditioners.

The 8-in. unit is rated 20 uf, 440 vac and may be used in multiple for central air conditioning applications.

Fan Control Timer Fits Standard Box

What is claimed to be the first flush-mounting, all-electric fan control timer that fits a single standard outlet box, model FA51-O, has just been announced by Paragon Electric Co., Dept. AC&RN, 1600 12th St., Two Rivers, Wis.

Unit automatically shuts off electrical equipment at any pre-selected time up to 20 hours. The FA51-O can be used for a wide variety of home timing applications including the control of attic fans, yard lights, porch lights. The timer wall plate has been designed with molded ivory urea material and is 2½ by 4½ by 13/16 in. The time plate has a gold finish with black numerals and the timer setting knob is also matching black and gold.

Prevents Scale In New Equipment

A new 10-lb. package of "Solvex Maintenance Grains" has been announced by the Chemical Solvent Co., Dept. AC&RN, P. O. Box 487, Birmingham, Ala.

The material is for use in new or recently cleaned water-cooled refrigeration and air conditioning equipment and prevents scale formation, slime, and corrosion by coating metal surfaces with a thin membranous films which aids in heat transfer efficiency by acting as a wetting agent. It is recommended for use in areas where water is unusually hard.

Westinghouse CORPORATION

uses
**REVCOR
BLASTAIRE
BLOWER WHEELS**



because...

Revcor Blower Wheels meet the high performance and quality standards demanded by Westinghouse!

REVCOR SINGLE AND
DOUBLE INLET
BLASTAIRE BLOWER
WHEELS ARE USED BY
OVER 60% OF THE
ROOM AIR CONDITIONER
MANUFACTURERS!

Write For Technical Details

Revcor INC.
ENGINEERS • MANUFACTURERS
251 EDWARDS STREET
CARPENTERSVILLE, ILLINOIS

LOOKS LIKE ORIGINAL EQUIPMENT . . . cools far better!



Here's why this air conditioner pays

PROFITS from coast to coast

New clear through! Long low evaporator case tucks easily under new low dash boards — looks built in. New, positive, wide range, temperature control. New illuminated Monitor Beacon temperature indicator. New air control with six louvered outlets. New, quiet, twin squirrel cage blowers.

Priced for profit. Pricing, packaging, warranty allowances all are designed to give distributors and dealers a proper profit with a minimum investment.

Engineered to eliminate trouble spots. The clutch is used only to start or stop the unit, not to regulate temperature. The exclusive Selectrol system controls temperature by metering the Freon flow. Thus the jarring, off-and-on action of a cycling clutch—the source of much wear and service trouble—is eliminated.

National sales and service. Factory trained service men coast to coast, over 500 distributors and service centers.

National advertising. Now in the third year of coast to coast outdoor poster showings. And the big new medium planned for this year: six segments of MONITOR each summer week end over the nationwide NBC radio network. Plus free aids, co-op help on local advertising.

MARK IV DIVISION

JOHN E. MITCHELL COMPANY

3800 Commerce Dallas, Texas

Manufacturers of Fine Machinery for More Than Half a Century

Send
for
details
now

JOHN E. MITCHELL CO., 3800 Commerce St., Dallas, Texas
I'd like information about a Mark IV distributorship or dealership.

Name _____

Company Name _____

City _____ State _____

Type of business _____

We are ☐ are not ☐ rated in Dun & Bradstreet.

Standard Dash Model. A price leader with a profit! An excellent dash model comparable to other makes in every way except in its low price.

Trunk Model. You get a shot at all the business. Mark IV's complete line and long list of adaptor kits gives Mark IV distributors business that others can't even try for.



Harvey Aluminum To Install 80 Huge Utility Fan Blowers

LOS ANGELES—One of the largest single contract awards for air blowers ever received by Utility Fan Corp. was announced by Vance Smith, general manager.

Utility Fan is a division of Utility Appliance Corp., it was explained.

The contract is from Harvey Aluminum Corp. for 80 huge blowers with a total capacity of 6 million cu. ft. of air per minute for use at the new multi-million dollar Harvey reduction plant now under construction in the city of The Dalles, Ore.

The blowers will be used to provide a constant supply of fresh air for the Harvey plant workers, Utility Fan pointed out.

You Asked About It

From the many requests for information it receives, the NEWS will select and publish some of general interest. In many instances, the answers will be supplied by authorities in the industry. If you do have a question or problem concerning which you think the NEWS might be able to help, be sure to state the problem clearly, and provide as much information as possible.

Q. Will you please advise if Refrigerant-22 dissolves with and carries the oil through the system as easily as does Refrigerant-12?

Louis Loeffler, Jr.—Oklahoma City

A. Yes and No!

Actually, there have been many studies of this general subject, and the NEWS will discuss it in detail along with the general subject of R-12 and R-22 at a later date. Practically speaking, and briefly, here is the picture:

Refrigerant-22 will mix with oil quite readily at higher temperatures; at lower tempera-

tures, the two tend to separate into two layers. Now at just what temperatures separation takes place depends on such things as the type of oil and the operating conditions of the system. Piping sizes, the presence or lack of oil separators, and such factors will effect this separation of oil from R-22.

There is no formula or stock answer to this general question. Each system must be designed with this factor in mind.

The point to remember is that there are many units lubricating properly with Refrigerant-22 in them; and there are some R-12 systems which are lubricating improperly.

Q. It is common practice to charge Refrigerants 12 and 22 in the vapor state through the suction service valve—not only for convenience but because it is thought that the vapor is drier than the liquid refrigerant.

Yet, in the so-called P_2O_5 method for determining moisture in refrigerants, isn't the refrigerant vaporized through the test chemicals? Doesn't this mean that the vapor IS wet? Is it wetter than the liquid? Is it the same for 12 and 22?

M.R.T.—Detroit

A. Dr. W. A. Knapp, General Chemical Div. of Allied Chemical & Dye Corp., answers:

It's a two-way street. Vapor from a Refrigerant-22 cylinder is drier than the liquid from which it is vaporized, but vapor from a Refrigerant-12 cylinder is wetter than the liquid from which it is vaporized.

In either case the refrigerant supplied to the system is satisfactory, because the moisture content of refrigerants now supplied to the industry is exceedingly low.

It must be remembered also that if all the charging cylinder is used on a single job, the average moisture content of the charged refrigerant will be the same as the full cylinder.

Charging vapor phase from a Refrigerant-12 cylinder will give wetter gas off first, but the gas will become drier as succeeding units are filled from the same cylinder. The reverse is true with Refrigerant-22.

In the P_2O_5 analysis for moisture, the liquid refrigerant is totally vaporized into the absorbing chemicals so that it makes no difference whether the moisture comes off first or last as the sample is vaporized.

Water Service Laboratories Moves Philadelphia Office

NEW YORK CITY—Water Service Laboratories, Inc., chemical engineer and specialist in corrosion control, has moved its Philadelphia offices and laboratory to 169 W. Wyoming Ave., it is announced by Henry L. Shuldener, president of the company. The new branch contains nearly four times more space than the service organization's former Philadelphia office.

Ansul's Sales, Profits Highest In Firm's History

MARINETTE, Wis.—Sales in 1957 of \$15,982,000, highest in the company's history, were reported to shareholders of Ansul Chemical Co.

Also reported were profits of \$633,820, another all-time high for the company. These figures compare with 1956 sales of \$14,442,000 and profits of \$465,000.

The report was made by Ansul President Robert C. Hood at the annual shareholders' meeting.

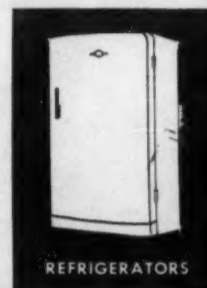
Dudley L. Miller, a partner in the New York law firm of Gerdes, Montgomery and Miller, and Dr. Kenneth W. Vaughn, a partner in Rohrer, Hibler and Replogle of New York, were elected members of the board.

More and More Refrigeration Equipment Manufacturers

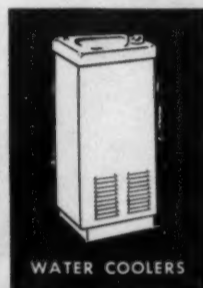
look to

KLIXON CONTROLS

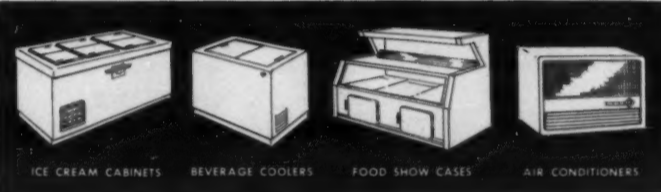
for dependable, trouble-free service



REFRIGERATORS



WATER COOLERS



Refrigeration equipment has an uphill job to do — it is most needed when the conditions under which it produces cooling are most difficult.

And that's just when KLIXON Controls demonstrate their worth!

KLIXON Dome Mounted Overheat Protectors enable overloaded compressors to deliver the last bit of cooling output available without dangerous motor overheating. KLIXON Motor Starting Relays dependably start motors again and again over a wide range of line voltage variations with long years of trouble-free life. KLIXON Hermetically Sealed Thermostats are sturdy and reliable — have substantial electrical ratings — give spot temperature control you can count on in refrigeration systems.

That's why more and more manufacturers look to KLIXON Controls to help build a reputation for dependable performance in air conditioners, refrigerators, freezers, beverage coolers, drinking fountains, display cases, ice cream cabinets, etc.

When you specify KLIXON Controls in your refrigeration equipment you assure your customers maximum performance — minimum repairs and replacements — less need for field service.

Check with your compressor supplier — or we'll be glad to send literature on request.



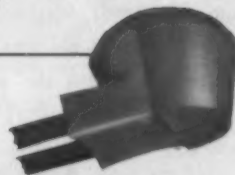
KLIXON
Dome Mounted Protectors develop all the capacity available in a hermetic compressor under overload conditions — shut the motor down only when maximum allowable winding temperature is reached — automatically restart it when operation can be resumed safely.



KLIXON
Motor Starting Relays complete the combination required to start and protect hermetic motors. Their positive action and long life eliminate starting troubles.



KLIXON Hermetically Sealed Thermostats give spot temperature control, unaffected by altitude or cross ambient temperatures. Easily installed... they can be used for automatic or manual reset heating or cooling operation and they have substantial electrical ratings.



Another First from DOVER

The First Packaged Cooling Tower with **SELF-CLEANSING BASIN** and **ALL-PURPOSE Right-Angle UTILITY SUMP**



SERIES CF
Horizontal Induced Draft
2 to 200 tons capacity

Dover adds another first to an already impressive list of achievements in the cooling tower industry. The Dover self-cleansing basin and all-purpose right angle utility sump bring you such advantages as:

SLOPING BASIN . . . basin collects all mud and debris in one section for easy removal through sump flush-out opening.

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DRAIN DRY FEATURE . . . right angle sump can be adjusted so that basin drains dry each time system shuts off . . . simplifies servicing and winter shut-down.

EASY FIELD HOOK-UP . . . right angle sump provides bottom suction with side pipe-up . . . eliminates need of costly grillage to elevate tower. Tower rests on its own skids.

DOVER

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METALS & CONTROLS CORPORATION
Spencer Thermostat Division
2403 Forest Street, Attleboro, Mass.

KLIXON



Where to find residential air conditioning dealers?

Today's key question in residential air conditioning is: Who will sell the bulk of tomorrow's market? Many types of dealers have been mentioned but no single group has proven that they, above another, will control the market.

Truth is, some from many groups will step forward as the air conditioning specialists of tomorrow. It depends entirely on each individual's determination to move ahead aggressively into the promising specialty of year-round residential air conditioning.

Meanwhile the problem: Amid this present dynamic development of distribution outlets the manufacturer is all but unable to identify his future volume dealer. Communication between product maker and potential seller is a challenge.

There is, however, one medium bridging this gap — AIR CONDITIONING & REFRIGERATION NEWS — the only weekly newspaper of this industry, read and referred to by distributors and contractor-dealers alike. Each year, the NEWS invests tens of thousands of dollars to include in its circulation, the new individuals and the new corporations entering the field.

Whatever his past ties, the new contractor-dealer recognizes his dependence on the NEWS for the information he must have to be or to stay a successful residential air conditioning specialist. Because of this he pays to receive it. So the NEWS becomes the one medium able to bring you into contact with new distribution points as they emerge.

What better showcase for your selling message than in the one business paper that is seeking out and is finding the new residential air conditioning dealers? Advertise regularly in the NEWS.

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NEWS

The Newspaper of the Industry



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• LOS ANGELES, 4710 CRENSHAW BLVD.,
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Refrigeration Problems And Their Solution

(As Written by Paul Reed)

Building Up Pressure for Leak Testing (2)

BUILDING UP THE PRESSURE WITH CO₂ IS SUGGESTED

It has been suggested that we use CO₂ to build up the pressure of the low side so that we can find the leak. We have never used that method and are not sure that it will work, but we tried it.

Fortunately, hand valves were installed in the branch liquid and suction lines when the job was installed, so we can segregate each bank of plates, and thus test one set at a time. In that way we do not have to shut the machine down very long at a time. We can test one set of plates, and then run the machine a while to pull the temperature back down before we test the next bank.

This plant was not equipped with hot-gas defrosting. That would have helped, for it would have enabled us to defrost the bank of plates so that we could

ing to test first, along with the Refrigerant-12 already there.

We must be sure that the cylinder of CO₂ is equipped with a pressure regulator, and we should set it for about 100 p.s.i.g. In some instances it will be possible to set it for as much as 200 or 300 p.s.i.g., but in this case the low side pressure will be on the seal and it is best not to subject some types of seals to any more pressure than we have to.

Where we attach the CO₂ will depend on how the plant is connected. In this plant the lines are hard copper with sweated joints, and no charging valve was provided in the liquid line; so it is difficult to connect the CO₂ cylinder into the liquid line.

der into the liquid line.

So we connect the cylinder of CO₂ to the service port of the compressor suction service valve. Then we loosen the feeler bulb of the thermostatic expansion valve feeding the bank of plates that we are to test, and take the bulb away from its contact with the plate or suction line. We warm it some with our hands to be sure that it is open, so that the CO₂ will go backward from the plates into the valve and liquid line.

Slowly, we open the valve on the cylinder of CO₂ until we build the pressure in the low side, as registered on the compound gauge, up to the 100 p.s.i.g., or whatever we have decided on. We now have a pressure of 100 p.s.i.g. in the plates that we are going to test first; that is, we have built up the 7 p.s.i.g. Refrigerant-12 pressure to 100 p.s.i.g. in those plates.

The other three banks of plates still have only the 7 p.s.i.g. of Refrigerant-12 gas in them and they are segregated from the rest of the system. Also the receiver and condenser are segregated from the rest of the system.

TESTING WITH 100 P.S.I.G.

We are now ready to test the one bank of plates, their expansion valve, their branch liquid and suction lines, and the main liquid and suction lines. We have a pressure of 100 p.s.i.g. which should enable us to find even a rather small leak.

After this one bank of plates is carefully tested, and we have either found a leak, or have satisfied ourselves that there is no leak in that bank, we are ready to:

(1) Test the other banks, or (2) the temperature in the locker room may have gone up and we may have to run the machine for a while before testing the other banks, so we remove the CO₂ and Refrigerant-12 from this one bank.

If we decide on (1) we simply open another pair of branch line valves to another bank of plates. When we do this, the pressure will drop to about 60 p.s.i.g., for we have increased the volume, so we can again bring the pressure back up to 100 p.s.i.g. with the CO₂ and test the next set of plates. We can either close the first pair of branch line valves or not.

If we decide on (2), we leave the

valves as they are, and pump a vacuum on the bank that we have tested. This done, we open all valves and start the system.

To pump a vacuum it is best to use a vacuum pump:

(1) There is a possibility of "oil slugging" if the compressor is used, with danger of damage.

(2) This time, we want to get just as good a vacuum as we can. A good vacuum pump can pump a much deeper vacuum than most compressors built for refrigeration service. A good vacuum pump can get within a few thousands of an inch of a perfect vacuum.

Variations in the types of systems, and in the way they are connected will cause variations of the method above described. Some men will have their own way of doing the same thing above described. The amount of time that the machine can be down will dictate variations in the method. For such equipment as condensers, receivers, evaporative condensers, water towers, and other equipment, higher refrigerant and CO₂ pressures can be used to advantage.

(To Be Continued)

CORRECTION

Several paragraphs of the last installment of "Refrigeration Problems" were inadvertently transposed. In this week's installment these paragraphs are published in their proper sequence. It is suggested that those who save the column delete the last nine paragraphs starting with the sub-heading "Building Up the Pressure with CO₂ Is Suggested," which appeared in the Feb. 24 issue.

be sure that the leak was not being partially stopped with ice or frost. We clean that bank of plates off as best we can while we are pumping it down.

THE PRESSURE BUILD-UP METHOD

First we close the Receiver Service Valve and leave the Compressor Suction and Discharge Service Valves open. Then we block the control and run the machine until we get about a 10 or 15-in. vacuum. This takes the liquid out of the low side, leaving only gas.

When we are satisfied that there is little if any liquid Refrigerant-12 in the low side, we stop the machine and "crack" the Receiver Service Valve, letting just enough Refrigerant-12 to the low side to build the pressure up about the average suction pressure. We want to fill the low side with gas but not liquid.

If we watch the compound pressure gauge closely, we will see the pressure get up to about 3 or 4 p.s.i.g. and then hesitate. Right there is where we should shut the receiver service valve completely, for that is where the refrigerant will start to condense to a liquid, and above which there will be little or no further rise of pressure.

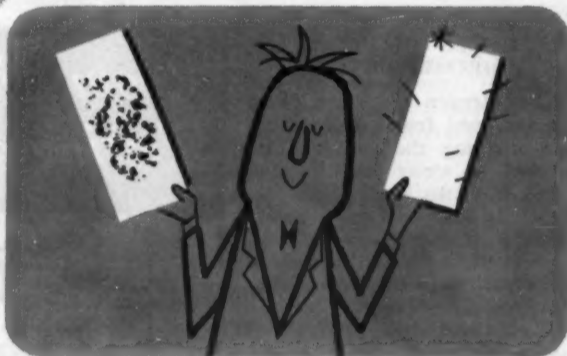
If the plates have been defrosted and are warm (up to locker room temperature) the low side pressure may get up to as high as 7 or 8 p.s.i.g.; if they are cold it may get up to only 3 or 4 p.s.i.g.

We now have the low side filled with a gas, but with little if any liquid refrigerant. With the machine still off, we close three pairs of the branch liquid and suction line valves, but we leave open the pair to the bank of plates that we are going to test first. We have now segregated the one bank of plates from the other three banks.

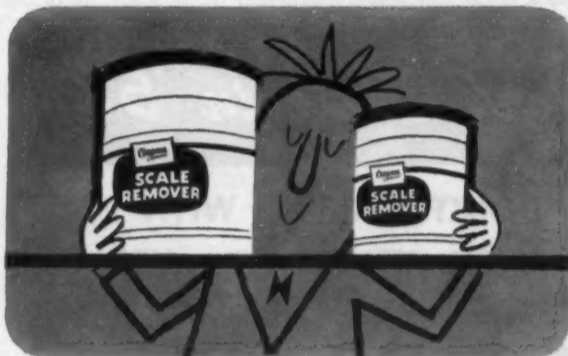
ADDING THE CO₂

With the switch to the machine OFF, we now close the Compressor Discharge Service Valve, and prepare to connect a cylinder of CO₂ so that the CO₂ will go into the bank of plates that we are go-

"VIRGINIA" Solid Scale Remover works rapidly, economically... much more safely EVEN PROTECTS GALVANIZED EQUIPMENT



Tests reveal that "Virginia" Solid Scale Remover is much less corrosive than any other scale remover on the market. A 1-hour immersion test in inhibited "Virginia" Solid Scale Remover solution leaves galvanized strip intact (right), while a popular competitive scale remover completely erodes the surface (left).



This new, dry-acid formulation is packed in 10 and 50-lb. drums. Just empty into the water, stir into solution and it goes to work at once. Equally safe for galvanized, dipped zinc and aluminum water-cooled equipment, "Virginia" Solid Scale Remover offers the added advantage of destroying algae growth.



You will find that "Virginia" Solid Scale Remover is easy to use, too! No lifting and pouring from heavy glass bottles—no danger from splashing or pools of acid solution on the floor—no hazard from broken glass. Once you use "Virginia" Solid Scale Remover, you will discover how easy it is to get rid of scale!



For reliable, efficient water treatment, use "Virginia" chemicals—Solid and Liquid Scale Remover, Water Treatment Scale and Corrosion Inhibitor, Algae-Cides #1 and #2, and Ice Machine Cleaner. Your wholesaler stocks them. Ask about a new service company moneymaker—the "Virginia" Water Treatment Plan.



For free folder, "How to Turn Water into Money," write Refrigeration Division, VIRGINIA SMELTING CO., 192 Jefferson St., West Norfolk, Va.

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Available in Canada and many other countries



TECHNICAL CENTER

By Frank J. Versagi, Technical Editor

Used Driers (5)

Depending on the reason the drier was removed and on the case history submitted by the serviceman, the manufacturer may run one or many groups of tests on the drier.

MAY LIMIT TESTS SOMETIMES

If the complaint is merely a plugged drier, for example, and there is no question about the drier's moisture adsorbing ability, the tests may be limited to measuring the amount of sludge and identifying the major substances in the sludge. Table I gives a brief description of a series of tests on sludges which are conducted by one drier manufacturer. (The column marked *Method* will be of more interest to other chemists and manufacturers than servicemen; some of the tests could be conducted by servicemen with improvised test equipment, but several of them would be too complex.)

The table gives a good idea of the thoroughness with which manufacturers study returned driers.

Occasionally it is sufficient to know merely how much of everything the drier has picked up without particular concern as to what was picked up. One example was a large unit which

was passing excessive oil. As corrective action was taken, the most convenient way of measuring the improvement was to check the oil content of the drier.

In this case, the unit was passing 20-30% oil; moisture wasn't a factor.

The test used on the desiccant under these conditions is called "Total Volatile." A weighed sample of the desiccant is ignited at 1,750° F., so that all volatile matter—oil, alcohol, water, most sludges—is driven off. The loss in weight is determined and calculated to per cent total volatile of the original weight.

If the total volatile is 15%, for example, there is no way of knowing just from this test whether the loss in weight represents half water and half oil, or 99% oil, or 99% water.

HOW TO FOLLOW CIRCULATION DROP

However, where conditions are known, as in the oil trouble above, it is easy to follow the reduction in oil circulation by following the lowering total volatile of each separate batch of desiccant. In this case, the total volatile dropped from 26% to 12% when the oil problem was licked. (In determining total volatile on activated alumina and silac gel, there may be up to 7% of the loss due to internal water of construction of the

desiccant. This would be there whether or not the desiccant had ever been used. Thus in the example above, the oil actually accounted for 26% minus about 7% and then 12% minus 7%.)

If it is necessary to know how much moisture the desiccant has picked up, the total volatile test will not do. In this case several different types of tests are used by manufacturers, all of them requiring considerable time and usually more skill than can be expected of servicemen untrained in laboratory techniques.

One company places a weighed sample of the used desiccant in a flask of Stoddard solvent and boils it. The vapors from the flask are led into a specially designed receiving tube (Dean-Stark) where they are condensed and where direct moisture readings are taken.

If alcohol pickup is suspected, the refractive index of the water in the receiving tube is checked and the alcohol content calculated. Refractive index is merely the measurement of the amount of bending light undergoes in a given liquid. Each liquid has its own refractive index.

Another company checks for moisture by placing the used desiccant in an oven at the proper temperature for the specific desiccant, then passing dry nitrogen through the oven for four hours. The moisture-laden gases leaving the oven are passed through a trap in ice water and then through tubes containing an indicating desiccant.



A SMALL portion of equipment used by manufacturers to test driers. (Courtesy of Mueller Brass Co.)

Table 1—Outline of Typical Sludge Analysis Performed by Drier Manufacturer*

Test For:	Method:
Iron	Potassium Ferrocyanide
Copper	Potassium Ferrocyanide masked with potassium fluoride
Zinc	Mercuric Thiocyanate
Lead	Sulfuric Acid
Chlorides (salts of hydrochloric acid)	Silver Nitrate
Sulfates	Barium Chloride
Fluorides	Zirconium Alizarinate
Organic Matter	Solvent extraction
Aluminum	Alizarin

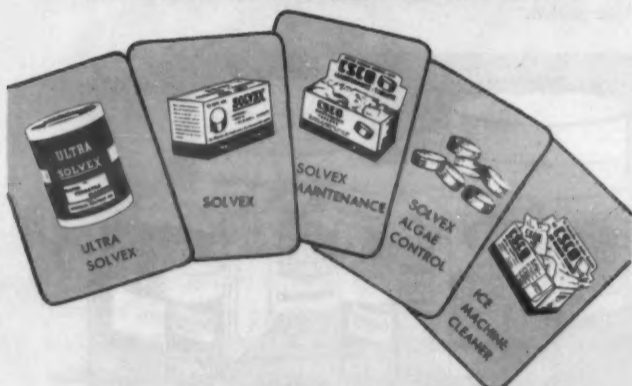
If the sludge is analyzed in dilute nitric acid solution and again as a water solution, metallic oxides and metal particles can be differentiated from salts.

*Submitted by Sporlan Valve Co.

Work Safe in '58

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HARSH CHEMICALS — USE

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Your Best Deal!

For Water-Cooled Equipment

Regular Solvex
Ultra Solvex

Solvex Maintenance
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CSCO Ice Machine Cleaner

See your Wholesaler or write:

CHEMICAL SOLVENT CO.

P. O. Box 487

Birmingham, Ala.

KEEPS OIL FROM DECOMPOSING

The nitrogen keeps any oil in the desiccant from decomposing and affecting the results. The amount of water is calculated and related to the original capacity of the desiccant to determine if the desiccant is still useful. The collected water can be tested for alcohol—this company using a chemical (nitrochromic acid) test instead of refractive index.

Still another method used to check used desiccant is actually to pass wet refrigerant through a weighed sample of it, then determine how much, if any, of the moisture it picks up. This method takes longer than the others, and it requires maintaining a supply of refrigerant with known moisture content. Further, it requires more skill and accuracy than the other two methods.

(To Be Continued)

Hussmann Earnings Drop

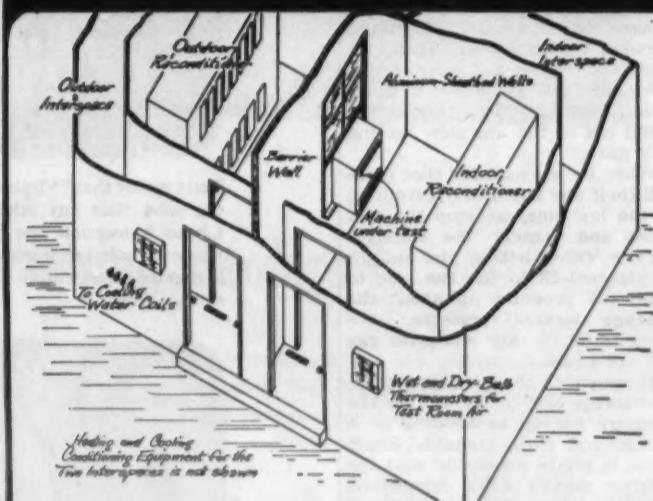
ST. LOUIS — Hussmann Refrigerator Co. reported earnings last year fell to \$2,556,727, equal to \$2.04 a common share, from \$3,251,717, or \$2.62 a share in 1956. Sales last year declined to \$33,660,312 from \$34,700,695 the year before.

New orders for food store equipment received for the period from last Oct. 1 to the end of January were "in excess of those for the similar period a year earlier," it was said.

For Your Reprint Copy

"Emergency Diagnosis, Repair of Hermetic Unit Electric Components," by John L. Zant, mail this ad with your name and address to: Air Conditioning & Refrigeration News, 430 W. Fort, Detroit 26, Mich. Only 25¢ each.

Room Air Conditioner Testing and Rating Service



ETL's new test facility — a balanced ambient room type calorimeter — is designed to provide test data on operation, capacity, and performance of room air conditioners rated up to 20,000 B.t.u./hr. The sketch above outlines this new test facility which is completely instrumented for the accurate determination of all data per ARI 110-56.

ETL, a 60 year old independent testing organization, has specialized in the testing of room air conditioners for the past 23 years. Its test findings are accepted as reliable, impartial and authoritative.

Know by
ETL Test

Facilities are also available for determining product performance at other than standard voltages and frequencies over a wide temperature range — and for all Standard Tests of domestic refrigerators and freezers.

ELECTRICAL TESTING LABORATORIES, INC.

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PHYSICAL • MECHANICAL • ENVIRONMENTAL

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FOR MORE INFORMATION ON LITERATURE DESCRIBED ON THIS PAGE

Write Directly to the Company—at the Address Given in the News Item

'Dependabook' Buying Guide for '58 Issued

"Buying guide" of air conditioning and refrigeration products for spring and summer of 1958 has been issued by Harry Alter Co., Inc., Dept. AC&RN, 1717 S. Wabash Ave., Chicago 16.

"Dependabook" is a 160-page parts catalog that lists new air conditioning and refrigeration parts and spare parts for most makes of electric motors.

Drayer-Hanson Lists Foreign Distributors

A directory listing of foreign distributors who represent the firm in 24 foreign countries has been published and is available through Drayer-Hanson Export Div., Dept. AC&RN, Box 2215,

Terminal Annex, Los Angeles 54.

Benson indicates the organizations may be contacted direct for engineering application assistance and to obtain the sales and informational publications issued by the West Coast manufacturer of air conditioning and refrigeration equipment.

Notes Facts, Figures On Alkali Metals

Up-to-date facts and figures on lithium and other alkali metals (cesium and rubidium) have been compiled in a 24-page brochure with six charts and 14 illustrations by Montgery Explorations Ltd., Dept. AC&RN, Toronto, Ont., Can.

The brochure covers lithium from its discovery in 1807 to its use in high energy fuels and in atomic fusion. Principal sources

of lithium developed and undeveloped in the world, are given. Current prices, principal uses, and producers of lithium are described including applications only recently announced.

Catalog Simplifies Purchasing Listings

New-style department arrangements and assortments to simplify purchasing are claimed by A. R. Webber Co., Dept. AC&RN, 142 Orange Ave., W. Haven, Conn.

Many sections of this 160-page book are said to be of interest to heating, plumbing, air conditioning, refrigeration, and sheet metal dealers and contractors.

Fully illustrated and detailed are complete lines of heating, plumbing, and air conditioning supplies; a full line of plumbing fixtures; plumbers brass, lighting fixtures, and electrical supplies; construction tools; hand and power tools; and custodial and maintenance equipment.

Bulletin Features Quick References

A new four-page bulletin is now available featuring quick-reference data on the company's more popular pressure reducing and regulating valves, back pressure valves, and diaphragm operated control valves by the A. W. Cash Valve Co., Dept. AC&RN, Wabash at Morgan, Decatur 60, Ill.

The folder gives an easy-to-use resume of seven different valves, including available pressures, body materials, service, and pipe sizes.

Non-Overloading Direct Drive Blowers Cataloged

Recently produced is a new catalog on non-overloading class 1 direct drive blowers by Peerless Electric Co., Dept. AC&RN, Warren, Ohio.

The new two-color catalog covers general construction features, ratings, performance data tables, motor construction, finish, extra features, dimensions, and recommended specifications of units made by the Fan & Blower Div.

Details Hygrometer Features, Operation

Availability of a new, four-page bulletin, "The Beckman Electrolytic Hygrometer," has been announced by Beckman Process Instruments Div., Dept. AC&RN, 2500 Fullerton Rd., Fullerton, Calif.

Bulletin EH-4001 provides detailed information on the features, operation, and specifications of the portable, panel-mounted, and explosion-proof models of the hygrometer.

The literature is illustrated with photographs, flow diagrams, and dimensional drawings.

Data Sheet Illustrates Winter Air Conditioner

A two-color data sheet describing a new series of factory assembled gas-fired winter air conditioners is available from Thatcher Furnace Co., Dept. AC&RN, Garwood, N. J.

Ten specific features of the

new series, number 552 are listed. A chart gives engineering data and specifications on the five models in the new series. Illustrations include two photographs and a line drawing. Optional equipment is also described.

Service Manual Out on Heating, Cooling Controls

For the installer and serviceman of heating and air conditioning equipment and controls, General Controls Co. announces the availability of the latest printing of its B-60 Service Manual from Dept. AC&RN, 801 Allen Ave., Glendale 1, Calif.

This Seventh Edition covers the installation, maintenance, and service of the B-60 self-powered gas system, thermostats, pilot generators, fan and limit controls, transformer relays, thermopilot valves, and a guide for the use of millivolt meters.

Describes Full Line Of Registers, Grilles

A new 54-page catalog (No. 1-58) (A.I.A. File No. 30-J) describes and illustrates the complete line of grilles and registers manufactured by Waterloo Register Co., Inc., Dept. AC&RN, P. O. Box 72, Waterloo, Iowa.

In addition to 40 photographs and 35 drawings, the catalog contains selection tables for each of the 26 standard sizes and for new grilles with curved louvers.

Offers Evaporative Condenser Manual

Publication of a 16-page engineering manual on evaporative condensers has been announced by Baltimore Aircoil Co., Inc., Dept. AC&RN, P. O. Box 7322, Baltimore 27.

This book covers the theory of evaporative condensers.

for pumps you'll never have to pamper**Specify F-M Split-Case Centrifugal Pumps**

Capacities, pressures and sizes for any requirement. Single-stage or multistage.

Unsurpassed for low-cost maintenance and high, sustained efficiency over wide range of conditions.

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Booster Service
Cooling Towers
Water Treatment
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F-M Westco Peripheral Pumps

Capacities to 200 gpm. Pressures to 900 ft. Sizes 1½" through 2½". Horizontal, single-stage or multistage.

Develops high pressure at normal operating speeds. Handles widely varying heads with little change in capacity.

Hot Water Circulation
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Capacities to 900 gpm. Pressures to 525 ft. Sizes ¾" through 5". Single-stage or multistage.

General-purpose, close-coupled pump and motor units mount in any position—horizontal, vertical, angular.

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F-M Pomona Water-Lubricated Turbine Pumps

Capacities, pressures and sizes for any requirement.

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Be sure of low-cost, foolproof pumping installations that match your exact requirements... call in your Fairbanks-Morse Sales Engineer. Take advantage of his broad technical background and expert knowledge of pumps for air conditioning, plumbing and heating. Call today, or write Fairbanks, Morse & Co., Dept. ACR-310, 600 So. Michigan Ave., Chicago 5, Illinois.

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RAIL CARS • HOME WATER SERVICE EQUIPMENT • MAGNETOS

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5. Arizona State Highway Dept.
6. Carl Hayden High School
7. Rose Lane School
8. Madison School No. 5
9. Madison School No. 6
10. St. Joseph Nurses Home
11. First National Bank, Thomas & Central Branch
12. Egyptian Motel
13. Sands Motel
14. Highway House Motel
15. Valley Ho Motel, Scottsdale
16. Down Town Motel
17. Motorola Research Lab.
18. Motorola Western Electronic Center
19. Republic & Gazette Newspaper
20. Arizona State Hospital
21. Flamingo Motel
22. Park Central Shopping Center
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24. Banks Medical Bldg.
25. NPAK Television Studios

The Burst-At-The-Seams activity that is today's Phoenix, Arizona, can best be measured by these diversified Drayer-Hanson air conditioning installations, recently sold by the E. B. Bomar organization, 914 W. Madison Street, Phoenix.

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Why Air-Cooled Unit Made Phenomenal Progress In Residential In 5 Years (1)

Represented 'Break-Through' to New Market

By Woodrow Radle, Product Performance Analyst,
Airtemp Div., Chrysler Corp.

A term which is frequently mentioned in the present period of extraordinary scientific accomplishment is the "break-through," referring, of course, to the clearing away of some intellectual or technological log jam, which opens the way onto a new plateau of progress.

The introduction, five years ago, of the air-cooled unit for residential application was such a step in the air conditioning field. For the homeowner it has meant the availability of equipment to provide economical year-round air conditioning with a new degree of freedom from maintenance and operational worries. For the manufacturer, seller, and installer it has been the means of securing an accelerated entry into a market of vast potential but comparatively minor penetration.

Mostly Water-Cooled Equipment Used pre '52

Any survey of the residential field in 1952 or earlier would have shown that of the small

total number of installations practically 100% involved the use of water in one way or another in the heat rejection process. This was the day of the water-cooled unit, and there were few who foresaw either the speed or the extent of the transition that was soon to begin.

2 Approaches

At Airtemp, in 1952, in the wake of the development of the sealed "Water Saver," a device which eliminated water usage in packaged cooling units and in effect produced an air-cooled system, we were working on two approaches to the design of an air-cooled unit for the residence. One was the split system for custom installation, the other was a complete package for location in attics, utility rooms, etc.

As the designs were finalized and test results accumulated, enthusiasm grew. The picture looked good. Still, the idea had to be "sold." Many people, when

air-cooled units were mentioned, visualized a dirt-covered open coil and fan system, as connected to a cold storage room, whose droning propeller was reminiscent of a plane poised for take-off. Of course, there would also be questions of capacity, "high" head pressures, installation, operating cost as compared to the accepted water-cooled system, etc.

Comment Confirmed Equipment Capability

These and other questions were asked many times during 1953 as the first production units were installed. However, favorable comment from the field, as well as our own tests, quickly confirmed the capabilities of the new equipment, and any doubt of its success soon disappeared.

Some of the early questions and field test results were discussed by J. D. Loveley in a talk before a national meeting of ASRE in 1954. Commenting on comparative operating costs in two Dayton test homes he said:

"One Dayton home is a one and one-half story home, with a sun porch on the rear and a bedroom on the second floor—a total of almost 1,600 sq. ft. to be conditioned. The operating cost for the past cooling season was \$48. The 3-hp. condensing unit is installed on the east side of the house. This location happened to be the most convenient, as well as the most advantageous in installing from our standpoint.

"Second Dayton home . . . is approximately the same size except that there is no occupancy above the first floor. It has a full basement and again has very little shade. This home is cooled by our water-cooled model 1503 with the same size evaporator coil and the same compressor as used in the air-cooled installation.

'How Air-Cooled Units Save Money'

"Inasmuch as the homes were both in Dayton and on the outskirts of the city, the ambient conditions as shown on the instrumentation were almost identical, and a direct comparison can be made on performance and operating cost. This home air conditioning cost \$72 for the season. It had the same compressor, same evaporator coil—but a city water-cooled condenser."

Referring to graphs of cost savings under various conditions he continued:

The growth in the use of the air-cooled condensing unit in air conditioning applications has been particularly rapid in residential systems. In the course of this growth, there was not much time for reflection on all the reasons, for it, but Woodrow Radle, product performance analyst for Airtemp, recently put together some of the thinking and results of studies on the subject.

The result is the accompanying article, which is in two parts. The first covers the "reasons why" of the growth of the air-cooled unit. Second part, in a following issue, will cover some of the methods and problems in the application of air-cooled systems.

"Fig. 1 shows how air-cooled units save over cooling tower operation. A cooling tower does not eliminate water usage. At \$3.50/M cu. ft. using the basis of 3,000 ton-hours, your lowest water cost will be \$10. To this must be added the cleaning of the tower and condenser two or three times per year, if the capacity and power costs are to be kept at desired levels. We show that even at 2½ cents power rate, with 85° ambient, savings will be over \$30 a season.

"Fig. 2 shows how air-cooled operation saves over city water. Our waterless 3-hp. unit costs the ultimate customer very little, if any, more than a comparable city water-cooled unit. However, any such extra cost can be recovered in the form of operating cost savings.

'Customer Better Off Cost-Wise In 2 Years'

"In almost any locality the customer is better off cost-wise within two years, and he is not subject to all the hazards of water-cooled operation; namely, water restrictions, low main pressure, increased liming ten-

dencies, and increased water rates."

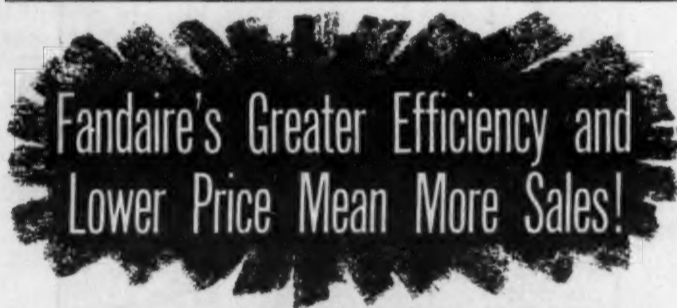
The last statement was based on the results of a study comparing operating cost of air-cooled and waste water systems in 66 principal cities scattered over the 48 states. On the basis of 3,000 ton-hours of cooling the calculated savings breakdown was as follows:

Savings	No. of Cities
Over \$75	7
\$45 - \$75	13
\$15 - \$45	33
Less than \$15	10
Favored water cooled	3

'Home Unit Trend Unmistakable by '54'

By 1954 the trend to air-cooled residential equipment was unmistakable. This was clearly shown by the installations at the Austin Air Conditioned Village. Of the 22 different varieties of equipment placed in the village, six were air cooled, although it appeared that two of these had been fabricated on-the-spot from com-

(Continued on next page)



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Exclusive fintube design and circular sloping layer of tubes means Fandaire Condensers deliver 100% efficiency. Each circuit consists of one continuous length eliminating pressure drop. Perfect for water cooling tower replacement on existing base.

Fandaire Air Conditioners available in 2 through 30 ton capacities. Can easily be combined with existing heating systems. Completely air cooled and weatherproof.

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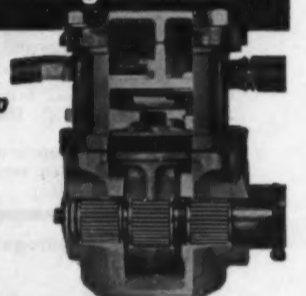
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MODEL 77 Diaphragm Descaling Acid Pump

Descaling compounds can't affect this pump! All parts in contact with compounds are completely acid-resistant. Can be supplied as portable unit with pump and motor mounted on sturdy base and with convenient carrying handles.

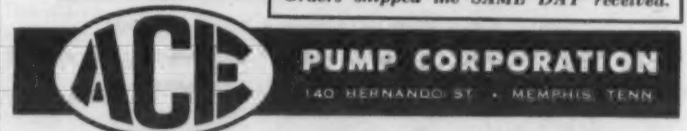


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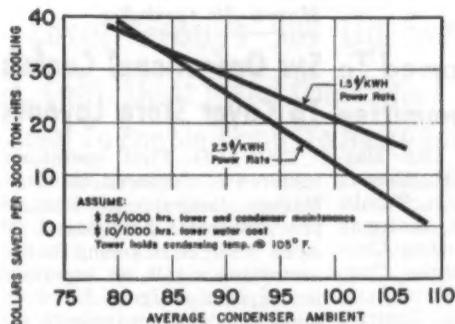


FIG. 1 compares cost savings possible with air-cooled unit over system using cooling tower.

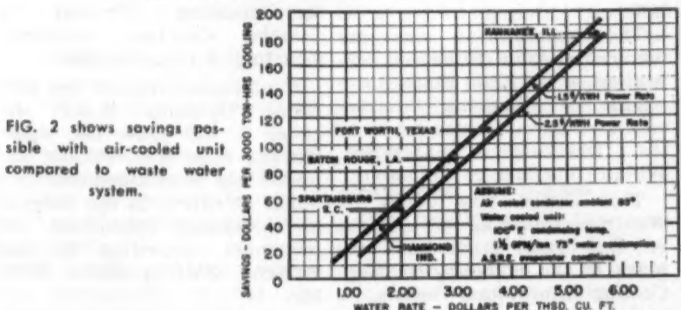


FIG. 2 shows savings possible with air-cooled unit compared to waste water system.

Break-Through In Air-Cooled Home Units

(Continued from preceding page) merical components as a last minute decision.

The season of 1954 was unusually warm through much of the South, and provided an excellent opportunity to secure operating data with the new equipment, which was subsequently very useful in studies of unit sizing and operating cost.

The benefits of the air-cooled system, or as it is sometimes called, the waterless unit, were discussed in detail in a monograph prepared by Loveley and P. W. Wyckoff in 1955: "Design and Performance of Year-Round Residential Waterless Air Conditioners." The main benefits listed were:

1. No water consumption.
2. Reduced maintenance.
3. No seasonal water drainage.
4. Complete comfort control from a single thermostat station.
5. High installation flexibility.
6. Lowest floor area requirements.
7. Quietness of operation.
8. Lowest operating cost.

Cites Year-Round Availability

A particularly interesting example of the year-round availability of the new equipment was cited in this discussion:

"A more specific example of the importance of having air conditioning with does not depend on water is given by means of the official Weather Bureau Chart for Dallas, Texas for the

month of March, 1955. A section of this chart is shown in Fig. 3. Note that the 92° to 94° F. temperatures in the early part of the month required air conditioning. These are followed by freezing temperatures of 23° to 30° later in the month.

"Since air conditioning was turned on in the early part of the month during the hot spell, extensive damage due to freezing of cooling tower system components, such as pumps, was experienced in the later freezing temperatures. Many owners did not anticipate this and neglected to drain the water.

"This experience, of course, discourages use of air conditioning during the early months of the year. Waterless units in contrast to this have no water and, therefore, are always available for use."

Automatic Changeover

With regard to automatic changeover, the paper had this to say:

"The next benefit of the modern waterless system is the fact that automatic changeover from heating to cooling can easily be obtained. To do this it is necessary not only to eliminate water from the system, as discussed in the last paragraph, but it is necessary to have a factory engineered electrical system. This electrical design is integrated into the year-round equipment so that the thermostat can be supplied to provide this valuable feature of automatic changeover.

"The thermostat supplied to

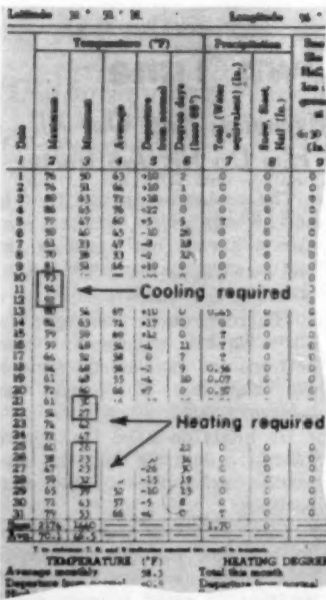


FIG. 3—Cooling was required in Dallas early in March, 1955, but a few days later temperatures dropped below freezing, as this portion of official weather chart shows.

give automatic changeover from heating to cooling and complete comfort control from a single station is the only part of the system with which the homeowner must be familiar. It is a very compact unit . . . which automatically switches from operation of the furnace to operation of the air conditioner as

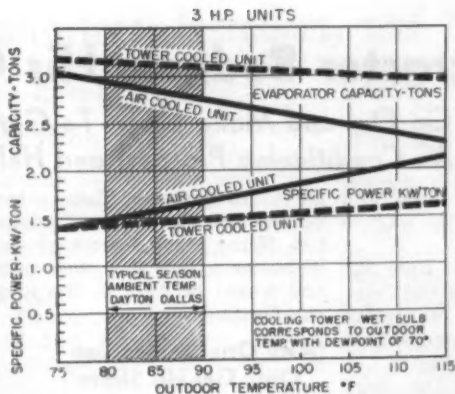


FIG. 4—How capacity and power vary with ambient temperature.

the temperature of the house calls for it.

"In the spring and fall, there are some days in nearly every territory where heating is needed at night and cooling is required in the daytime. With this thermostat, no attention from the homeowner is required for this operation.

"A built-in switch . . . permits the homeowner to select continuous air movement during the summer months or to have it turned off and on with the compressor if he wishes. . . . Another switch . . . turns the cooling system off completely. As a result of an ingenious electrical circuit, all the safety devices in the air conditioner are also reset by turning this switch to the 'off' position and back on again.

System Protected

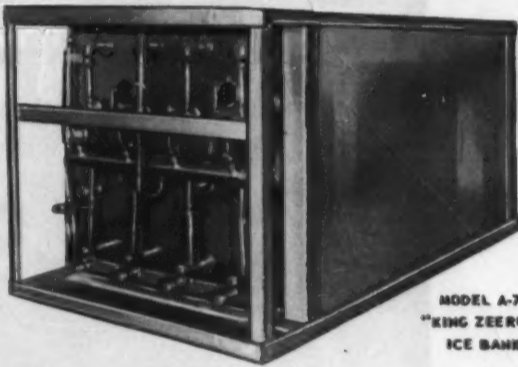
"If the compressor overload or the high or low pressure cut-out in the refrigerant system should trip due to some freak occurrence such as a momentary voltage dip, the system is protected by operation of the cut-outs, yet the homeowner may reset the cutout without calling the serviceman."

In discussing performance the authors referred to a graph shown here as Fig. 4. This shows the variation of capacity and specific power of a 3-hp. unit as related to the condenser ambient temperature. It can be seen by checking a couple of points that the unit capacity varies about 3½% for each 5° change in temperature.

(To Be Continued)

Add a "King Zeero" ICE BANK to Your Refrigerating System for Effectual, Economical Air Conditioning

The "King Zeero" ICE BANK is designed to deliver 32° to 34°F. ice water for recirculation through air cooling coils in exactly the right amount when and where it is needed. It levels off "peak" and "valley" loads. Peak loads many times compressor capacity are easily handled. Ice Banks may be added to increase existing capacity. Refrigerant: Freon, Methyl Chloride or Ammonia.



MODEL A-7
"KING ZEERO"
ICE BANK

CAPACITIES - 500 lbs. to 30,000 lbs. (72,000 B.T.U.'s to 4,320,000 B.T.U.'s) in a single unit. Multiple units may be installed.

The Patented Coils with Built-in Louvers opposed to the flow of water through the ICE BANK provide turbulence. This eliminates a mechanical agitator - insures all the water rubbing all of the ice. No upkeep or repair expense whatever.

The "King Zeero" Ice Storage System of water chilling has definite advantages over direct expansion, or other types of ice accumulators.

Saves power through smaller compressor requirement. Simple construction (no moving parts). Dependable in performance. Low operating and costs.

Let the ice stored during light loads take care of peak loads. The compressor need only handle the average daily load - not the peak.

THE KING ZEERO COMPANY
4300-14 W. Montrose Ave. - Chicago 41, Ill.
Manufacturers of Ice Builders - Ice Builder Cabinets - Ice Banks

Steiner Is Payne Assistant National Sales Manager

LA PUENTE, Calif. — The recent appointment of William F. Steiner as assistant national sales manager was announced by Owen McComas, national sales manager for The Payne Co.

Steiner's new responsibilities will include overall supervision of the field sales force, excluding the southern California area, and interpretation of national sales policy in the field. His former position was that of factory sales engineer in northern California sales territory.

KRACK air conditioners

HEAVY-DUTY KOMFORT MASTER

for supermarkets, food processors, institutions, factories, hotels, other installations

• Meets ASRE standards for dependable performance • Complete moisture repellent and sound proofed insulation • Twin, heavy-duty centrifugal fans • Multi-port distributor • Up to 10 combination cooling and heating coils • Heavy gauge galvanized steel cabinet and welded frame • Cadmium plated fittings.

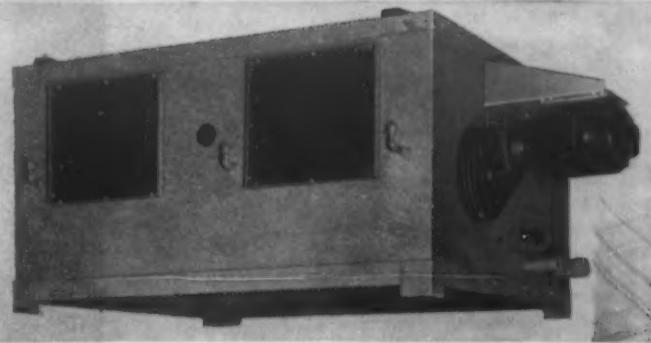
Low cost Komfort Master, designed for highest efficiency and wide use • 5 models, 2 to 10 tons.

You can depend on Krack's 25 years of engineering and production experience to give you the most value for the money



REFRIGERATION
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whisper quiet—remote type ceiling or floor mounted . . . 12 models—8 to 50 tons



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SELLING SLANT

How Contractor Budgets His Own Time**Dealer Advises 'Go Out and Make Calls' To Get Business, Find Out All You Can About Air Conditioning Prospect and Help Him Do His Job Better**

TIFFIN, Ohio—"Go out and make calls. That's the way to get business."

So says grey-haired Rule Egbert. He's been doing that successfully ever since he started in the electrical business back in 1921. He's still doing it.

"We started out in hard times and still do better in hard times than good," he commented. "You just have to scratch a little harder, that's all."

As head of a thriving electrical business—Acme Electric Co.—that today includes air conditioning (he's a York dealer), Egbert has to spend half of his time in the office, handling the buying, supervising employees, and (with a wry face) making out tax and other reports to the government.

But the other half of his time he spends outside, making calls. When he isn't estimating and making proposals for new business, he is policing his credit. Every time he goes out, he slips a few overdue bills that need personal attention in his pocket.

'If Customer Can't Pay, Fix It So He Can'

"If the customer can't pay, fix it up so he can pay," Egbert advises. "That's very important when you make out a payroll."

Before calling on a prospect, Egbert always makes it a point to find out all he can about the man. What his credit rating is, what his needs are, and what his likes and dislikes are. Such information can be obtained by simple inquiring around and by checking directories, he said.

With this information, you know beforehand that the prospect is a good one and have some idea of what appeal to emphasize.

In selling air conditioning and electrical equipment to business and professional men, the most effective appeal is to help him do his job better, Egbert says.

'Know Your Equipment'

Knowing his own equipment, the salesman can advise the prospect what he should have to do the job he wants done.

"This is where the older man has the advantage," Egbert grinned. "When you get older, you gain standing in the community and people have more confidence in your judgment. They will generally take your advice, where they would resent the same advice from a young man."

"By the same token," he added, "never try to cheat a man. If your product will not do the job for him, tell him so."

This is in line with Egbert's "live and let live" philosophy about business.

"Any local market," he will tell you, "has an invisible fence around it. There are just so many people in the market. They have just so much money to spend. They will not and cannot spend it all in one place."

"They have to spread it around. If they spent all their air conditioning dollars, for instance, with one dealer, the others would soon be forced to

go out of business. These other dealers are customers of theirs too. If the other dealers go out of business, they lose customers and would be hurt in the long run themselves.

'Any One Dealer Can Only Get His Share'

"So," argues Egbert, "any one dealer can only get his share of the market. The rest must go to his competitors. It is for the good of all."

Egbert recalled that not too long ago, he lost the sale of a piece of air conditioning equipment, even though he had the customer sold on his way.

The customer argued that he had already given Egbert a sizeable share of his business and had to give the air conditioning order to a competitor.

"There's room enough for all," Egbert shrugged, "competitors are entitled to some of the business. They are customers, too."

He holds no hard feelings on losing orders. In fact, he does service work for all his competitors.

This pays in the long run, he believes, because an important factor in the customer's decision to make a purchase is his confidence in your ability.

P-H-C Information

March 30-April 2

MacDermid Named To SMI Operational Confab Head Ohio Committee To Cover Store Layouts

CANTON, Ohio—Dan MacDermid of the Dan MacDermid Plumbing & Heating Co., Toledo, has been appointed chairman of the Plumbing-Heating-Cooling Information Bureau Committee of the Ohio State Association of Plumbing Contractors.

The appointment was announced at the 67th annual convention of the Ohio State Association of Plumbing Contractors in Canton. It was made by the newly-elected president, Wilbur Wuellner of Columbus.

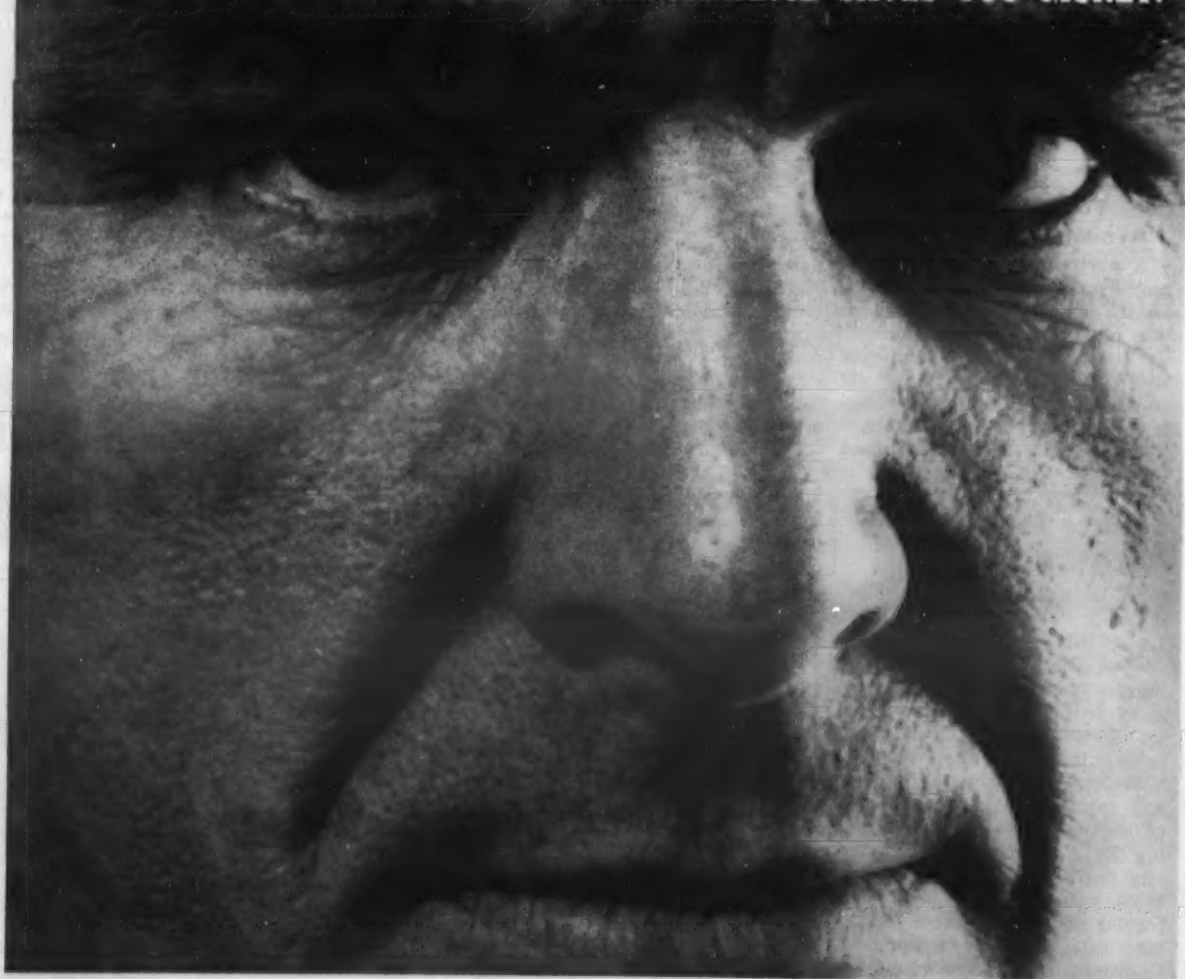
This action was taken by Wuellner following an address on the organization and program of the Plumbing-Heating-Cooling Information Bureau.

CHICAGO—First operational conference sponsored by Super Market Institute in Philadelphia's Sheraton hotel March 30-April 2 will offer among its presentations a talk on supermarket layouts designed for maximum customer convenience and merchandising efficiency by Douglas Courtney, president, Courtney & Co., consultant.

Conference program has been called "Operation M.O.P." because it will show the supermarket men that volume and profits can be attained only by a union of efforts in the fields of merchandising, operations, and personnel, according to Don Parsons, SMI executive director.

SORRY

AT THE WAY PROFITS MELT AWAY IN EXCESSIVE SERVICE COSTS? THEN
READ HOW TYPHOON'S QUALITY PERFORMANCE SAVES YOU MONEY.



Local Groups Set Up Schooling, Training Activities for Contractors, Installers, and Apprentices

So. Calif. Sheet Metal Contractors Plan Estimating 40 Journeyman Plumbers Enroll In School To Enable Them 'To Make Fair Profit Margin' MRACCA, PHCA Refrigeration Course

LOS ANGELES—An estimating school for contractors and key employees is planned by the Sheet Metal Contractors Association of Southern California. It will teach contractors to bid properly on a job, enabling them to make a "fair margin of profit."

A recent survey of 500 bankrupt firms revealed that less than 25% had adequate records and a third had none at all.

When plans are completed, the school will aid contractors through instruction in proper procedure to follow in maintaining records.

SMCA will emphasize education henceforth, it was an-

nounced. More time will be devoted to educating contractors along these lines: 1) in sound business principles; 2) establish and maintain harmonious relationship between members and their employees; 3) continuation of a good apprentice training program; 4) promotion of standardization of materials and fixtures; 5) encouragement of uniform regulations; 6) closer cooperation with other industry associations.

Declares Dividend

COLUMBUS, Ohio—Directors of Ranco Inc. recently declared quarterly dividend of 30 cents per share on common stock.

TERRE HAUTE, Ind.—About 40 journeymen members of Plumbers and Steam Fitters Local Union No. 157 of the United Association are enrolled in a twice-a-week refrigeration course jointly sponsored by the local, the Master Refrigeration and Air Conditioning Contractors Association, and Plumbing and Heating Contractors Association.

Held at Gerstmeier Technical high school, the course is directed by the school's vocational director and the instructor is paid from school funds. The school charges a tuition fee which is paid from the Educational Trust Fund jointly ad-

ministered by the union and employers. Students are required to buy their own books, purchased at discount by the trust fund and sold to students at cost.

Explaining the financial-contribution arrangement, Grover C. Osborn, business manager of Local 157, pointed out that during the first four weeks of July, the employers deduct from all employees 1% of their gross pay. This amount is then matched by the employers and paid to the trustees of the educational trust fund.

"Modern Refrigeration and Air Conditioning" by Althouse and Turnquist is the book used.

Local RACCA-UA Set Up Journeyman Training Jointly

SAN DIEGO, Calif.—A journeyman training program is being developed by Refrigeration & Air Conditioning Contractors Association of San Diego and U.A. local union 230.

For every journeyman hour worked, one cent an hour for journeyman training purposes goes into the "Joint Fund Trust." This became effective Sept. 1, 1957.

All funds for journeyman training will be paid out only by the administrator for authorized and approved purposes. Under provisions of the contract between RACCA of San Diego and local 230, the administrator is appointed by the trustees.

JOINT FUND

Four contractors represent RACCA, four journeymen represent the union, as trustees of the Joint Fund Trust.

Contractor trustees are J. H. Gustafson, who is chairman of the trustees; C. E. Ward, Ralph L. French, and Gordon L. Scharfenberg. Journeymen trustees are W. L. Stelzer, business agent, and secretary of the trustees; W. L. Fickler, Franklin Jones, and Ralph Coleman. French has been appointed administrator.

C. E. Ward, president of RACCA of San Diego, said it is hoped to get journeyman training classes in operation in February for the spring term.

Organized a number of years ago, RACCA of San Diego adopted the following program for the current year:

PROGRAM ADOPTED

"Endeavor to have good relations between employers and employees.

"Avoid jurisdictional disputes with other trades if possible through good public relations with them.

"Build up membership with an organizing drive (now on).

"Develop and maintain training programs for both apprentices and journeymen."

RACCA assisted in formation of a new refrigeration code for the city of San Diego, effective Nov. 13, 1956.

Indentured refrigeration apprentices have their own separate night school classes. Number of apprentices has been increased to 18. Pat Riley, apprentice refrigeration instructor for several years, is also city refrigeration inspector.

Present RACCA directors and officers took office in October. C. E. Ward is president, Donald C. McDougal vice president, J. H. Gustafson secretary, and Felix A. Beck, treasurer. Directors are H. E. Friedrichs, Gordon L. Scharfenberg, Milton Jackson, and immediate past president Irving C. Mussen.

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Product Knowledge, Protective Maintenance, Trouble-Shooting, Adjustment, Repair of Electric Motors.

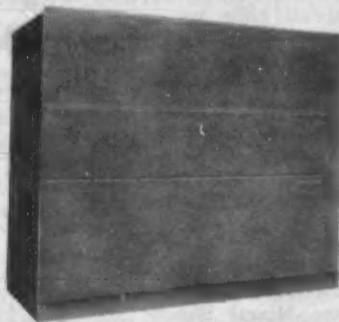
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For your copy, clip this ad and mail with name and address to: Air Conditioning & Refrigeration News, 450 W. Fort, Detroit 26, Mich.



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The most compact unit of its size in the industry. Horizontal water-cooled unit installs anywhere, frees all floor space. Small parts can be replaced on job. One man can remove compressor from ceiling location without disconnecting ducts or removing unit. All copper condenser, sealed fan bearings, high capacity ratings.



50 & 60 TON SELF CONTAINED

Compact as a packaged unit, flexible as a central station system. Self contained, all piped, wired, factory assembled. Rugged construction. High static pressure availability for long duct runs. Heavy duty fans with lifetime sealed bearings that never need oiling.

BUILD A BETTER BUSINESS WITH TYPHOON

Built to last—designed to deliver peak performance under the most demanding conditions—that's Typhoon—the line with the quality "extras." Power Reserve—each and every unit built with oversize parts to stand up to temperature extremes beyond the rated capacity. Superior components in all models; all copper condensers in water cooled units, largest coil surfaces, rugged 11 and 14 gauge metal in Typhoon's lifetime cabinets! Flexible large and small units that can be easily adapted, split or combined to fit any and all installations. Typhoon's direct factory service will even adapt units for you to fit specific locations, close specific sales. Selling's easier, installing is easier, service is easier and far less frequent when you sell Typhoon—the industry's best built and most complete line of packaged air conditioners. Write today for franchise information.

TYPHOON

DIVISION OF HUPP CORPORATION

Typhoon Air Conditioning Company
505 Carroll Street, Brooklyn 15, N. Y.

- ☐ Please send me full details about a Typhoon franchise.
☐ Please have your representative call on me.

Name _____

Address _____

City _____ Zone _____ State _____

8C-1

Over 1/3 of Drayer Jobs In '58 Air Conditioning Scheduled for Schools

LOS ANGELES—Public and private schools, old and new, constitute a high percentage of new order activity for air conditioning manufacturer Drayer-Hanson here.

Bookings thus far in 1958 indicate approximately 37% of total business received from the eight basic industries is for school air conditioning, the company said.

COOLING MILITARY BASES SECOND TOPS

Second highest is "comfort conditioning" for military bases and defense operation—some 18% of the total. Activity in hotel, motel, and apartment house construction registered 15% of over-all business.

Next on the list—each accounting for some 8%—are hospital and medical group buildings; factories and office buildings; and public utilities.

SUPERMARKETS TO CONTINUE COOLING

The studies, released by C. W. Pollock, Drayer-Hanson's manager of air conditioning and refrigeration, point to a continuing large-scale air conditioning and refrigeration activity for supermarkets.

The comparison, described as "an interesting index of current construction activity, world-wide," is revealed by Pollock as tallying with previous studies, conducted last fall, wherein schools topped all polls by a wide margin.

Prime jobs on this new business breakdown by Drayer-Hanson, it was noted, include such projects as County Courts, Los Angeles, and the Jet Propulsion Laboratory, California Institute of Technology, Pasadena.

Also, Speegle Clinic, Dallas; Stardust motel, Yuma, Ariz.; U. S. Post Office Court House, Abilene, Texas; Miami Beach (Fla.) Municipal Auditorium; some air conditioning phases of the Medical Center, Mexico City, Mexico; and continuing work for Patrick Air Force Base, Cape Canaveral, Fla.

Bulletins High Pressure Units

PASSAIC, N. J.—Publication of a bulletin on its line of "Tru-Air" high pressure air conditioning units, with static pressures up to 9 in. w.g., was announced by M. Blazer & Son, manufacturer and wholesaler here.

New Style Window Cooling



HOW 17 Mitchell Mfg. Co. 3-ton packaged air conditioners look from the inside of Mitchell & Co. department store set through window openings above stock shelves.



STORE appearance from the outside with packaged units set through window openings in Mitchell & Co. store.

Packaged Units Set In Window Openings Saves Dept. Store Floor Space, Ducting

HAVERHILL, Mass. — The Mitchell & Co. department store here is air conditioned by 17 Mitchell Mfg. Co. (no relation) packaged unit air conditioners, each rated at over 3 tons capacity.

The air-cooled units were installed by McGirr Heating & Sheet Metal Co. of Haverhill, through window openings high on the outside walls of the store.

The store management stated that it favored this type of installation "because it uses none of our valuable floor space and the individually controlled units allow flexibility of operation."

LIKES EASY MAINTENANCE

Other advantages which the management saw in the installation was the elimination of ductwork, which would have been costly and interruptive of store operations; the easy maintenance

of such units; the fact that if one unit went out of operation the store would still have adequate operation; and the possibilities of zoning operation for better comfort and greater economy of operation.

Hood Named Mfg. Aide As Carrier Ups Engineers

SYRACUSE, N. Y.—Advancement of six Unitary Equipment Div. staff engineers was announced by Russell Gray, Carrier Corp. vice president and divisional general manager.

The promotions include the appointment of William E. Hood as assistant manufacturing manager and Karl M. Gerteis as development department manager, Unitary Equipment Div.

Hood joined Carrier as an engineer in 1941, and had been manager of the division's development department since 1956.

Gerteis, who joined Carrier as a development engineer in 1937, has been compressor product engineering manager. A new section specializing in long-range compressor development work has been added to Gerteis' duties in his new post in the development department.

Other promotions announced by Gray included the appointment of Theodore Foster as manager of compressor product engineering; William LaGrange, manager, automatic ice maker product engineering; Edward Burke, section engineer, small Weathermaker products; and Paul Britton, senior development engineer.

all year air conditioning

Lowest Dealer Net Cost on Complete System \$599.00

Includes 3 tons of cooling, forced air furnace and controls. Completely wired with service and expansion valve hook-up.

- Weatherproof, Waterless Remote Unit
- Large Condensers

A profitable line to handle — Easily Installed — Easily Serviced. Dealers, Jobbers, Agents write for information

NATCO

P. O. BOX 7464 • HOUSTON, TEXAS

A NEW Development from

AUTO-LITE

INKLESS TEMPERATURE RECORDER!

The newest advance in temperature recording . . . Auto-Lite model 2200 operates completely without ink. It simplifies temperature recording for most processing operations.

- 2 small mercury batteries in case energize transistor oscillator connected to stylus arm.
- Stylus records temperature on 6" evenly calibrated sensitized chart.
- Battery life approximates 2000 hours.
- Records operating temperatures for 24-hour or 7-day cycles.
- Easily serviced — minimum maintenance.

THE ELECTRIC AUTO-LITE COMPANY
INDUSTRIAL THERMOMETER DIVISION
TOLEDO 1, OHIO
NEW YORK • CHICAGO • SARNIA, ONTARIO

Electric or mechanical chart drive available for either 24-hr. or 7-day rotation. In wall mounting, portable and self-contained type cases. Remote reading with capillary tubing. Temperature charts in ranges from -40°F to +550°F. Write for further information.

TEMPERATURE RECORDERS & INDICATORS

NATURE'S OWN AIR FILTER • "THE ORIGINAL HAIR FILTER"

U·KUT·IT

Replacement Filters for Room Air Conditioners

Efficient
Economical
Shatter-Proof
Harmless to
Handle

PADS COME IN
ONE LARGE SIZE

15 1/2" x 24" x 1 1/2"

BIG enough to cut out any size for ANY window unit with the flick of an ordinary household scissor.

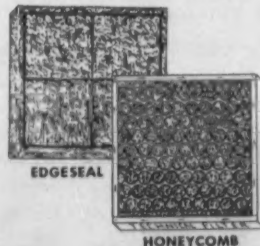


For Dealer-Service Man 50 piece (bulk pack). For the Individual: 4-pack Mailer—(Season's Supply). Single Pack: Polyethylene Bag—Plain or attractively printed.

Wholesaler and Dealer Arrangements

Made Exclusively by Technical Filter Company, 2719 S. Poplar Ave., Chicago 8, Illinois

Famous "EDGESEAL"



Popular "HONEYCOMB"

Air Filters for Heating, Air Conditioning and Industrial Applications.

Write for details.

Correct Illegal Hiring Practices, NLRB Warns--

(Concluded from Page 1, Col. 2)

In the Brown-Olds case, the J. S. Brown-E. F. Olds Plumbing & Heating Corp. had a contract with the plumbers' union requiring membership in the union before a man could be hired.

When Vernon L. Bryant was denied a job with the company because he did not belong to the union, he took the case to the NLRB. NLRB ruled the job denial illegal because it was based on an illegal closed shop contract.

It ordered the union not only to pay Bryant all the money he would have earned if the job were given him—the standard remedy in such cases—but also ordered the union to reimburse all its members all monies collected as a result of the illegal contract.

This money, the board said,

"constituted the price these employees paid in order to retain their jobs."

However, in this case, when the union pleaded that the remedy would cost it hundreds of thousands of dollars it no longer had, the board commuted the sentence.

The decision now to enforce the remedy in future cases was announced in a letter written by Fenton to the Building and Construction Trades Dept. of AFL-CIO, the Associated General Contractors, and the National Contractors Association. Fenton said, in part:

"The purpose of the (NLRB) in applying the so-called Brown-Olds reimbursement remedy is to effectuate the policies of the (Labor Management Relations) Act by, among other things, prevailing upon employers and unions to correct their illegal hiring arrangements."

"It will be preferable, of course, if the parties took it upon themselves to correct their illegal hiring arrangements, thereby achieving the same basic purpose sought by the Board but without the necessity of Board action."

"Such over-all elimination of

illegal hiring arrangements, by voluntary action, would not only help effectuate the purposes of the Act, but would clearly be an important step in the general public interest and in the furtherance of the fundamental rights of employees."

"With this thought in mind, I would like to suggest that during a period three months, commencing March 1, 1958, employers and unions, who are party to illegal hiring arrangements, vigorously undertake to correct such arrangements by bringing them into compliance with the provisions of the Labor Management Relations Act of 1947."

"If this is done, it may warrant the disposition, without full application of the Brown-Olds reimbursement remedy, of charges based upon illegal hiring arrangement which have been voluntarily conformed to the provisions of the Act during the period prior to June 1, 1958."

"It will also warrant my recommending to the Board during such period a similar disposition of all cases currently pending or brought before the Board with respect to such illegal hiring arrangements."

"It is understood, however, that apart from the non-application of the Brown-Olds reimbursement remedy, all charges and cases relating to or arising

out of illegal hiring arrangements must be processed in normal fashion although such arrangements may have been corrected during the period prior to June 1, 1958."

It was indicated by sources outside of the NLRB that the Brown-Olds remedy might also be applied to other illegal practices, such as abuses of the practice by local unions charging outside labor a fee to work within the local's jurisdiction.

An official of the Associated General Contractors, commenting on the letter, declared, "They mean business. It is for the mutual benefit of both labor and management. We intend to make our agreements conform to the law."

NLRB Rules Against 'Closed Shop' Clause In Bakersfield, Calif. Contract

WASHINGTON, D. C.—The National Labor Relations Board, in a recent order, has struck down one section of a working agreement between Local 460, United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry, AFL-CIO, and Bakersfield (Calif.) Associated Plumbing, Heating, and Piping Contractors, Inc. which apparently required employees hired by the association's members to join the union.

NLRB's decision and order requires both parties to "cease and desist" from "giving effect to, performing, or in any way enforcing Section 4 (A) of its working agreement dated July 1, 1955."

The union may not cause or attempt to cause Consolidated Western Steel Div., United States Steel Corp., or the members of the Bakersfield group, or any other employer, to discriminate against employees in regard to the hire or tenure of employment, or any term or condition of employment, in violation of Section 8 (a) (3) of the NLRB act.

Consolidated Western apparently had employed Roy S. Morgan, not a union member. When he failed to join the union, the local acted and, using its agree-

ment with the association, caused the firm to discharge Morgan, the order indicated.

Under terms of the NLRB order, the union, jointly and severally with Consolidated, must now repay Morgan for time lost. It must also withdraw its objection to his employment, and post a notice that it "will not cause or attempt to cause" Consolidated Western Steel Div. or the members of the Bakersfield group "to discriminate against their employees because they are not members in good standing in this Union. . . ."

The Board ordered, and Bakersfield Associated agreed, to cease "encouraging membership of employees of its members in the union by compelling them to become or remain members of the union or any other labor organization under the threat of discharge."

Similar orders were also issued recently by the NLRB in cases involving the following companies and locals of the Plumbers & Pipefitters:

C. F. Braun & Co. and Local 80, Delaware City, Del.; Catalytic Construction Co., J. J. McNally, Inc., and Local 322, Philadelphia; and Mark R. Kunkel Plumbing and Local 761, Los Angeles.

Trane Establishes Miami Regional Distributing Center

LA CROSSE, Wis.—Trane Co. has established its eighth regional warehouse distributing center in Miami, Fla.

The firm also has centers in New York City, Chattanooga, Kansas City, Dallas, Cleveland, Scranton, Pa., and La Crosse.

Purpose of the distributing warehouses is to provide immediate deliveries of self-contained air conditioners—and residential units when available in mid-summer—to Trane dealers throughout the country.

BLAST

**SCALE...SLIME...
SLUDGE...ALGAE**

**but SAVE the
EQUIPMENT!!**

VAPCO SCALE REMOVER

The safe, inhibited, activated acid cleaner in powder form, which also contains an algicide for prompt, positive cleaning under the most severe conditions. 10 and 50 lb. containers, with "TEL-ACTION" pH indicator inside.

VAPCO-HIB

ACID INHIBITOR

A must for those who prefer to "make their own" cleaner with liquid acids. VAPCO-HIB added to acid inhibits it without effecting its efficiency and provides outstanding protection to metals including GALVANIZE. Ask for VAPCO-HIB by name. 8 and 32 oz. bottles and bulk.

VAPCO-PHOS NUGGETS

Keep your jobs clean! For complete protection against recurrence of scale, rust, corrosion, algae and slime. Nuggets dissolve uniformly and slowly for long-term protection. Safe because NUGGETS are FOOD PURE! 10, 50 and 100 pound fibre drums.

VAPCO SLIME-X

Here is the easiest and most economical way to remove and prevent algae and slime formation. Just one ounce to ten gallons of water does it. Cannot harm any part of the system. 10 ounce cans and 25 pound drums.

Also:

VAPCO ICE MACHINE CLEANER—FOOD GRADE safety and quickly cleans all makes of cube-flake ice machines. 8 ounce bottles and 200 pound drums.

Complete literature on request or see your dealer TODAY!



TIME FOR DRILLING 3 1/2" HOLES THROUGH 10" REINFORCED MERAMAC GRAVEL CONCRETE FLOOR CUT FROM 6 HOURS TO 30 MINUTES

JOB: Cut 150 holes 3 1/2" diameter through 10" concrete floors for new conduit feeders in the warehouse section of the old Mart Building, now the St. Louis Area Support Center, St. Louis, Mo. The Building, constructed in 1932, was built of concrete containing Meramac gravel aggregate—"the next thing to flint". Chiseling these holes would have resulted in jagged and uneven holes, much dirt and noise, a big clean-up job and much patching to finish up the job and would have averaged six hours each for two men.

CONTRACTOR: The Sachs Electric Corporation, St. Louis, Mo.

TOOLS: Model C Truco Diamond Drilling Machine with 350 rpm motor and 3 1/2" O.D. Truco Diamond Drill Bit.

DESCRIPTION: Truco unit was used mounted on its mobile base and moved to location on its rubber tired wheels. Actual drilling time on each hole was from 6 to 9 minutes depending upon the number of reinforcing rods to be cut. Each completed hole averaged 30 minutes including all moving, set-up and core removal. (Compare with previous 6 hours for two men with air hammers.) Completed hole was clean and smooth and no patching needed. Truco unit is completely portable by one man and is designed for high speed drilling in practically any location. Wired for 110 V, 60 cycles or less.

WRITE FOR NAME OF NEAREST DISTRIBUTOR

**Truco Swivel Division
WHEEL TRUEING TOOL CO.**
30-3200 W. Davison Ave. • Detroit 38, Michigan

When your problem is...
SIZE...SHAPE or METAL
your answer is
DEAN GOLD PLATES

"Job Tailored" to your specifications

A baffling problem? Try a Dean Cold Plate made expressly to suit your particular requirements. Made in a variety of metals in cylinders, U's, angles, tanks, etc.

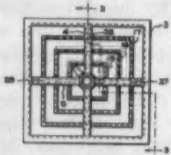
DEAN PRODUCTS, INC. 1042 Dean St. STerling 9-5400 Brooklyn 38, N.Y.

Choice territories now available for sales representation. Inquiries invited.

PATENTS

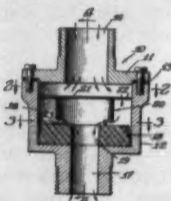
Week of Nov. 19
(Concluded)

2,813,476. ADJUSTABLE AIR DISTRIBUTION GRILLE. Clarence F. Graser, Orange, Conn., assignor to General Electric Co., a corporation of New York.



1. An adjustable air distributor comprising a frame member defining an air passage, a one-piece, molded resilient grille containing a plurality of concentrically arranged, rectangular vane sections arranged in radially increasing sizes and having adjacent sides in spaced parallel relationship, each of said sections having a pair of spaced horizontal vanes.

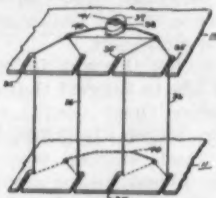
2,813,541. FLUID FLOW CONTROL MEANS. Wilbert E. Beller, Park Ridge, Ill., assignor, by mesne assignments, to Controls Co. of America, Schiller Park, Ill.



1. A fluid flow control device comprising in combination a member having a chamber having an inlet and an outlet, said outlet having a concentric shoulder adjacent thereto, a resilient member rested on said shoulder and having a central aperture for alignment with said outlet, an inverted generally cup-shaped member having an opening in a lower marginal edge thereof and rested on said resilient

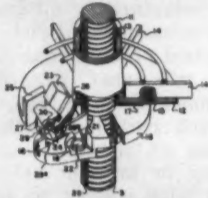
member, said opening affording communication between said inlet and said outlet.

2,813,595. ELECTROSTATIC PRECIPITATORS. Arnold C. Fields, Medfield, Mass., assignor to Westinghouse Electric Corp., East Pittsburgh, Pa.



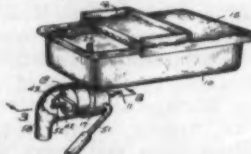
1. An electrostatic precipitator comprising a pair of oppositely positioned side walls of electrical insulation, collector plates extending between said walls, said plates having tabs extending through said walls, the tabs on alternate of said plates being in alignment, the tabs on the others of said plates being in alignment and spaced longitudinally along said walls from said tabs on alternate plates.

2,813,635. ADJUSTABLE SHELF STRUCTURE. Frank A. Schumacher, Erie, Pa., assignor to General Electric Co., a corporation of New York.



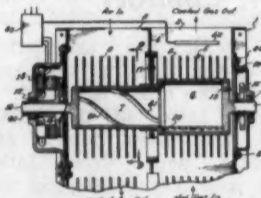
2. A vertically adjustable, rotatable shelf structure comprising a threaded shaft having a longitudinally extending keyway, a collar threaded on said shaft, a rotatable shelf having a hub portion surrounding said shaft and rotatably supported on said collar, a movable locking member mounted on said collar and engaging said keyway to prevent rotation of said collar, and a single positioning control member mounted on said shelf for retracting said locking member from said keyway and for releasably retaining said shelf in a predetermined normal angular position thereof relative to said collar.

2,813,662. CARBONATED BEVERAGE DISPENSER. Irwin J. Albert, Philadelphia, Pa., assignor to Soda Dispenser, Inc., Philadelphia, Pa.



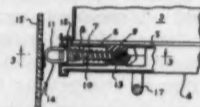
1. A dispensing apparatus for carbonated beverages comprising a supply container for syrup, a supply conduit for carbonated water, and a device for combining the syrup and carbonated water to form the carbonated beverage to be dispensed, said device including a main body part having a pair of separate internal passages formed therein for respectively receiving said syrup and carbonated water and discharging the same from said main body part in the same general direction, means for valving said passages including a member carried by and axially shiftable relative to said main body part.

2,813,698. HEAT EXCHANGER. Roland L. Lincoln, Palos Verdes Estates, Calif.



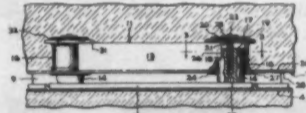
1. In a device of the class described, walls defining a pair of adjacent passageways, one of said passageways adapted to conduct a hot gas and the other of said passageways adapted to conduct a cool gas, means for transferring heat from said hot gas to said cool gas comprising hermetically sealed heat exchanger tubes supported within said wall with longitudinal axes located generally horizontally.

2,813,737. LATCH. George B. Reiter, Louisville, Ky., assignor to General Electric Co., a corporation of New York.



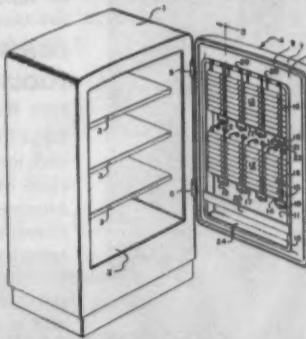
1. A latch comprising a housing including a face having an opening therein and an internally threaded retainer spaced from said face, a plunger including a head slidably and non-rotatably received in said opening and a shaft extending into said retainer, a coil spring, one end of said spring being anchored to said plunger adjacent the head thereof and the other end disposed between said retainer and said shaft and threadably engaging said retainer.

2,813,741. MAGNETIC LATCH. Alfred G. Janos, Louisville, Ky., assignor to General Electric Corp.



1. A magnetic latch for holding a door member in a closed position relative to a cabinet member and including a magnet assembly adapted to be mounted essentially on the rear side of a non-magnetic wall portion of one of said members, said assembly comprising a pair of non-magnetic tubular members each having a flange on the forward end thereof.

2,813,767. DOOR BACKS FOR REFRIGERATING APPARATUS. David B. Berg and Robert B. Farson, Erie, Pa., assignors to General Electric Co.



In a refrigerating apparatus, a refrigerator door having storage means for food packages, said storage means comprising a continuous inner wall portion of said door defining a central recess and a basically U-shaped rack formed of a single piece of wire, said rack including a bight portion having means for securing said bight portion to said door wall within said recess.

Terms Piping Means of Flow Control

Pressure-Temperature Relationships Show Needs To Get Correct Flow

DETROIT—"Far too many people use rules of thumb as though they are sacred commandments, instead of using logic and thought on each specific installation," according to Melvin A. Ramsey, consulting engineer to the Air Conditioning & Refrigeration Div. of Worthington Corp.

Speaking to the Detroit chapter of the American Society of Refrigerating Engineers on "Refrigerant Piping Practices," Ramsey cited the example of an engineer who wanted to redesign a piping layout to fit in with supposedly correct procedures to insure oil return. "This, in spite of the fact that the system had operated months with no oil return problem," Ramsey pointed out.

"Piping is really the means of flow control," he said, "and pressure-temperature relationships in each part of the piping

can tell us much of what we need to know to get correct flow.

'Discharge Lines Have Highest Pulsating Flow'

"The discharge lines have the highest pulsating flow in a system—the pulsations being greatly influenced by the compression ratio and the number of cylinders. We have to be sure the

(Concluded on next page)

NO FLOOR DRAIN?

INSTALLING
AIR CONDITIONER
ICE CUBE BIN
DRINKING
FOUNTAINS
BUY THE BEST
KESCO
AUTOMATIC
CONDENSATE
WATER DISPOSAL
PUMPS
1/30 H.P. to 1/3 H.P.
10 ft. to 50 ft. Head
At Your Wholesaler

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$7.50 per insertion. Limit 50 words. 15¢ per word over 50.

RATES for all other classifications \$10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other address by actual word count. Please send payment with order.

POSITIONS WANTED

REFRIGERATION SERVICEMAN, age 36, 14 years' experience installing and servicing refrigeration and air conditioning equipment. Interested in position with growing concern. Now employed. Full resume on request. Will relocate. **WARREN E. GYPE**, 1137 S. Detroit St., Bellefontaine, Ohio.

MARYLAND, WASHINGTON, D. C., and surrounding territory. Manufacturer's field sales representative. Age 35. Mechanical engineering degree. 13 successful years in establishing, managing, and promoting volume distribution in the heating, air conditioning and appliance fields. Seeks a line that offers a challenging opportunity. Reply **BOX A5981**, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

MANUFACTURER'S REPRESENTATIVES! Valuable territories now available for Aquaco-20 controlled water conditioning products which prevent formation of damaging mineral and scale deposits throughout water systems. Domestic, commercial and industrial uses unlimited. For more information write **AQUACO CORPORATION**, 437 Dundee Ave., Elgin Illinois.

WANTED REGISTERED heating and air conditioning engineer and estimator. **S. A. BROWN & COMPANY**, 7706 2nd Ave. South, Birmingham, Alabama. Phone Worth 1-6163.

SALES APPLICATION Engineers—The Drayer-Hanson Division of National-U.S. Radiator Corporation needs two sales application engineers to work in the air conditioning section. Background in air conditioning essential. Some experience in product application, order procedures, and field sales practices desirable. Please send resume and salary requirements to Personnel Manager, **DRAYER-HANSON DIVISION**, P. O. Box 2215, Los Angeles 54, California. All replies will be treated confidentially.

SALES ENGINEER—New York-Pennsylvania territory. Excellent opportunity in expanding OEM sales department of well known manufacturer of control valves and devices. Engineering education desirable. Development or application experience in refrigeration, air conditioning or heating essential. In reply state education, experience, earnings, personal data. Interviews arranged with qualified applicants. Replies held in confidence. **BOX A5984**, Air Conditioning & Refrigeration News.

RESIDENTIAL HEAT pump engineer—Leading manufacturer of air conditioning and refrigeration equipment

has openings in newly established engineering section for heat pump project engineers with experience in residential split systems and packaged air conditioners product design. All replies held in strict confidence. Send short resume to **BOX A5985**, Air Conditioning & Refrigeration News.

SALES ENGINEER—Large well known manufacturer of refrigeration and air conditioning equipment located in the East has excellent opportunity for man experienced in refrigeration and air conditioning to develop and expand O.E.M. sales dept. Application experience with small compressors and condensing units desirable. In reply state education, experience and salary desired. **BOX A5987**, Air Conditioning & Refrigeration News.

NEW YORK City air conditioning dealer, volume ten million wants sales manager. Wonderful opportunity for producer. **BOX A5974**, Air Conditioning & Refrigeration News.

SALES ENGINEER: Top notch man to head department dealing in larger commercial and industrial air conditioning in the Southern California market. Prefer aggressive man 35-50 with solid background in similar position. Please write in full. **BOX A5983**, Air Conditioning & Refrigeration News.

EQUIPMENT WANTED

WE WANT to buy quantity of used window air conditioners, any condition, make, or model. State price and number of units available now. **J. T. MURPHREE**, 2390 Ashwood Ave., Nashville, Tenn.

WANTED: USED ice machines—preferably Scotsman Flakers and Cubers. In reply, state model, year, serial, condition and asking price. Can use one or fifty. **WATERS EQUIPMENT COMPANY, INC.**, Phone: RE 7-5377, P. O. Box 10013, Tampa, Florida.

EQUIPMENT FOR SALE

REPLACE YOUR tool box with a **Handi-Roll!** Sturdy, water-resistant duck. Ample tool capacity. Not a catch-all. Minimum carrying-weight, with locking strap and handle. Price \$5.95. Send for free folder. See your jobber, or send check to **HANDI-ROLL COMPANY**, 12381 Wisconsin Avenue, Detroit 4, Michigan. Postpaid. Manufacturers' agents wanted.

3 TWO ton air conditioners, complete with vertical evaporators and remote air cooled condensing units with Copeland compressors. 230 volt single phase. Original dealer cost \$620.00. All in original factory cartons. Selling \$400.00 each. **F.O.B. HUGHES PRODUCTS CO.**, 2 Lake Drive East, Packanack Lake, Wayne, New Jersey.

LATEST STYLE 57 production 1 h.p. 230 V. single phase 50/60 cy. Freon-12 hermetic compressors. Model AS1716 air conditioning HBP. Complete with Klaxon overload, relay, starting and running capacitor. \$69.00 ea. Send for free circulars and bulletins on air conditioning and refrigeration values. **WALTER W. STARR**, 2833 Lincoln Ave., Chicago 13, Illinois.

NOW...STOP
ROOM AIR CONDITIONER
AIR FILTER PROBLEMS
...and profitably, too!

WASHABLE
ALUMINUM

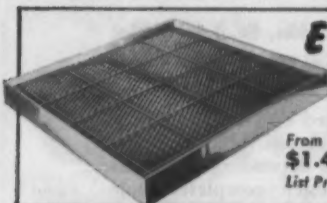


EZKLEEN FILTER

The perfect solution for those troublesome special sizes. Aluminum... easily cut with scissors or knife... won't shed particles... easy to wash. Eliminates large inventory of special sizes. Packaged in colorful polyethylene envelopes.



\$1.75
LIST PRICE



EZKLEEN

AIR FILTER FOR STANDARD SIZES

The high efficiency washable, aluminum filter in all standard sizes, in 1/2", 1" and 2" thicknesses. With the Trim-to-Size Filter, eliminate virtually all room air conditioner inventory problems.

From
\$1.46
List Price

Plus ODOR REMOVAL Feature
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Piping as Means of Flow Control--

(Concluded from preceding page) pulsating doesn't last long enough to cause piping vibration. The discharge line carries oil and carries gas, and care must be taken to prevent pressure loss, since this pressure is actually a source of power.

"If the discharge line runs for a considerable length, especially vertically, there will definitely be a coating of oil on the walls of the pipe. When the gas flow ceases, this oil will drain back to the compressor. There is some disagreement as to the possible harm to the compressor from returning oil.

"Our general statements now suggest that the discharge be down to the condenser or oil separator whenever possible. When this cannot be done, we recommend a dip in the pipe—

about 1/2 in. per foot of vertical rise," Ramsey continued.

Under Certain Conditions Compressor Can Act As a Condenser

Thought must be given to the fact that when the compressor temperature is lower than that of the condenser or receiver, the compressor can act as a condenser. This does not mean that liquid refrigerant siphons back to the compressor. Rather, the liquid vaporizes in the warm receiver, the vapor travels to the cooler compressor, where it condenses.

This type of occurrence is common with evaporative condensers, according to Ramsey. "Don't control evaporative condensers with the compressor; control them with a pressure

control which turns the evaporative condenser on and off whether the compressor is running or not.

'Check Valve Is Only Partial Answer'

"In this regard, a discharge line check valve is only a partial answer. I know of no valve made which won't leak at least a little after some service," Ramsey warned.

"Troubles may occur in the line from the condenser to the receiver, especially in water-cooled condensers where the temperature may be significantly lower than the temperature in the receiver. In one CO₂ job, this condition was so bad that receiver had no liquid at all and a relief valve on the condenser was 'snowing' indicating liquid high up in the condenser.

"In some cases it may be advisable to use a small compressor—1/2 hp. or so—to operate a cooling coil around the receiver. A properly designed and properly located heat exchanger also solves this problem at times."

The pressure drop in the liquid line from the receiver to the evaporator is of no concern thermodynamically, according to Ramsey. The important consideration here is that the size of the pipe and of the expansion valve match the pressure drop.

"If the line rises to any degree, provision must be made for subcooling," he stated. If the vertical rise is very high, it is also necessary to insulate the liquid line. Any flash gas must be eliminated before the expansion valve is reached.

Discussing evaporators, Ramsey defined a direct expansion evaporator as one in which the liquid refrigerant is completely vaporized before it leaves the outlet. He defined a flooded evaporator as one in which provision is made to pass, then recirculate, some of the liquid refrigerant through the evaporator.

Doesn't Like Term

On the subject of expansion valves, Ramsey objected to the term "thermostatic expansion valves." He prefers the name "superheat control valves," which he says is actually the name given them in Denmark.

"Remember, too," he instructed, "when we speak of a valve being set for 10° superheat, this figure only applies to one condition. For example, if a Refrigerant-12 valve is set for 10° superheat when the evaporator temperature is 50°, superheat would be 11° when the evaporator dropped to 40°, and it would be about 31° with a -42° evaporator.

Due To 'Pressure' Difference Only

"This is true because it is the pressure difference, not the temperature difference which controls the expansion valve setting."

Ramsey recommends that air handling evaporators be fed from the bottom up. This greatly reduces the chances of liquid slopover to the compressor when the unit starts up after an idle period, he says.

Ramsey then turned to the general subject of oil return, a

subject which he feels is over-emphasized. "I have never known of a system where oil return alone was a problem. The problem always occurs together with the problem of liquid slopover.

'Arbitrary Velocities Almost Meaningless'

"Arbitrary velocities in vertical and horizontal suction lines are almost meaningless," he continued, and he described a large installation where suction velocities at 25% of unit capacity were less than 350 f.p.m. "That job has been running every day for 20 years," he stated, "with absolutely no problem of oil return."

Ramsey described other jobs which had variable gas velocities depending on whether or not the system was operating at capacity. "I know of no definite answer on this subject of gas velocity, and there is need for extensive research on the subject of universal interest. But I do feel that the several recommendations now made are unrealistic in many cases."

Ramsey stated that in many cases the use of a trap in a suction line is potentially more harmful than helpful. "I state flatly, that no trap should ever be put into a suction line unless the trap has a drain." Traps, especially on larger lines, tend to collect liquid. Then when a unit starts up there is a tendency for this liquid to slop over to the compressor.

'Double Suction Lines Are Trouble Source'

"Double suction lines, too, are a source of trouble. By their very construction, they are slug-producers," Ramsey claimed. "Up to 5 ft. of liquid have been found in such double lines.

Asked if he would recommend a suction line trap for a small refrigeration system where the condensing unit is above the evaporator, Ramsey answered that in such instances oil return can normally be accomplished without suction traps "unless you go down to extremely low capacities."

"If you are accustomed to working with traps," he advised, "try one small job without one to get the feel of how it behaves."

Answering a question having to do with oil pumping and oil separators, Ramsey stated that certain amount of oil pumping is normal. "So long as the oil pressure is adequate, there is no need to worry about oil return. All of it will return at one time or another; and if it gets too low, the safety control will cut off the unit."

Floor discussion of the custom of adding 1 lb. of oil for every 10 lbs. of Refrigerant-12 in larger systems to prevent robbing the crankcase brought out the fact that some engineers make no oil allowance at all for quantity of refrigerant. The oil pressure is used as the guide, and the only extra oil added may be in larger oil separators.

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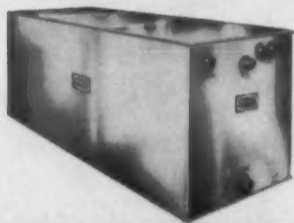
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'Wholesaler Function Necessary' --

(Concluded from Page 1, Col. 3) heating contractor who is going after the residential air conditioning business," Gilbert said that the manufacturers have been utilizing a number of different approaches, which basically break down to four distribution channels:

1. The independent wholesaler or distributor.
2. The factory-owned distributor.
3. The combination dealer-distributor or key dealer.
4. The factory branch office or direct dealer program.

Factory-Owned Distributor Is Newest Innovation

"Number 2 represents probably the newest innovation of the group, since these factory-owned distributorships are comparatively new concepts and lie between the independent distributors and true factory branches," Gilbert explained.

"They are supposed to take the place of independent wholesalers in trading areas where the manufacturer could not sign an independent capable of giving him the market coverage he deemed necessary. They differ from the factory-branch type operation in that their existence does not rule out the use of independent distributors in other areas by the same manufacturer.

"Without access to these manufacturers' sales figures, it is impossible to state how effective these outlets are. Undoubtedly, they have performed a service for their manufacturer, but there is a question as to whether this was accomplished more economically than if the independent outlet had been used. How long this outlet will remain depends upon the extent to which it fulfills the wholesale function more economically than any other channel.

Dealer-Distributor Common In Southwest

"The Number 3 channel mentioned, that of the combination dealer-distributor, is not new to you people in the Southwest and is being used today with a certain degree of success.

"This is the outlet that serves as a distributor and also performs the installing function. At the present time, this channel is a major factor in the residential air conditioning business but it would seem that with the advent of the mass market for residential air conditioning, this operation will resolve itself into either a true wholesaler or a contractor-installer. Such an outlet cannot continue carrying water on both shoulders for as a distributor-dealer, he cannot hope to sell his merchandise to people who are in competition with him.

"This leaves the factory-branch or the direct dealer operation and I am sure that as a wholesaler and a representative of this organization, you can give me many logical reasons why it is better to do business with a wholesaler and the degree of success that the direct dealer operation has approached in your territory."

Gilbert said that "it is impossible for anyone today to say that residential air conditioning will be sold and installed by one

specific class of retailer in the future, the industry being too young to show any appreciable market refinements."

The warm air heating contractor will loom large in the picture for a variety of reasons, the speaker pointed out. The warm air heating system using ducts for the distribution of heated air in winter can easily be equipped to handle cooling and dehumidification for summer comfort. The warm air heating contractor has basic duct design know-how to provide this air conditioning addition, Gilbert pointed out.

Has Contacts To Tap Existing Home Market

Furthermore, he has the sales contacts to tap the existing home market. By the simple process of going through his past invoices, he can determine

which homes are equipped with the proper systems for the addition of cooling.

While it is true that the "attic" type of packaged unit, requiring a minimum amount of installation work, can be sold by many types of retailers who may not maintain extensive facilities for installation work, Gilbert said he did not see such units "taking over the market."

"No doubt the installations of attic-type units will continue to grow as the market grows," he stated, "but it does not appear reasonable that it will assume prime importance."

Trane Gets 'Excellent Management' Rating

LA CROSSE, Wis. — The Trane Co. has earned an "excellent management" rating in the seventh annual U. S. and Canadian Company analysis conducted by the American Institute of Management (AIM).

RACCA --

(Concluded from Page 1, Col. 2)

Set next board meeting for Chicago, June 27-28.

Made final decision to hold RACCA national convention at Broadmoor hotel, Colorado Springs, Oct. 12, 1958.

Charles L. Walling of Los Angeles, national RACCA president, reported the board entered upon its agenda with a resolve to be better contractors, and to study their business with that goal in mind.

Their purpose is to study labor in order to learn how to deal with labor properly, to study various types of apprentice and journeymen training programs to do a better job.

"We want to be competent," Walling reported. "We do not want to be recognized as a pressure group. We want to be identified as an industry-building group."

"We have good working relationship right now with the United Association. They have told us they are interested in a training program which will prove the skill of the union worker. They are very interested in the competence of that man."

"We are confident they will all aim at that objective."

"We are going to be violently opposed to any type of union labor activity that follows restrictive or destructive tactics in this industry," Walling further stated.

The 1958 convention at Colorado Springs will not be near any other industry meetings.

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